An Address
ON
SCIATICA:
AN INQUIRY AS TO ITS REAL NATURE AND RATIONAL TREATMENT FOUNDED ON THE OBSERVATION OF UPWARDS OF 400 CASES.

Delivered at the Medical Graduates' College and Polyclinic

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GENTLEMEN,—I propose to deal in this paper with the complaint known as sciatica and to lay before you for your consideration the theory which I have formed as to the real nature and seat of that disease. I venture to think that the views as to the etiology and pathology of sciatica which are at present accepted must be modified in the future and the treatment of this disease placed on a surer and more rational basis. My opportunities of seeing cases of sciatica are considerable. During the last 13 years I have taken short notes of 418 cases of this complaint, not to speak of nearly as many more I had seen in 20 years' previous practice but not recorded. This collection is more than double the number recorded by Fuller as observed by Valleix and himself. I find that the disease is, on the whole, more prevalent amongst men than women. Table I. shows that in the

TABLE I.—*Showing the Age and Sex Distribution.*

Years.	Males.	Females.	Total.
20-29	9	9	18
30-39	22	19	41
40-49	36	35	71
50-59	62	66	128
60-69	60	45	105
70-79	23	20	43
—	212	194	406

Twelve additional cases were not recorded in Table I., which makes the grand total 418. The proportion of males to females was thus 100 to 90·1, but the real ratio of those living is 100 to 106. Consequently the disease was distinctly more prevalent amongst men than women.

cases with which I have had to deal the proportion of males to females is as 100 to 90, whereas in the general population the ratio of males to females is 100 to 104. The preponderance, however, of males is not nearly so much as I find stated by other observers. For instance, in 124 cases reported by Valleix the proportion of males is 72 to 52, while Fuller gives as many as 61 to 14. As regards age incidence I find that the greatest number of cases occur between 50 and 59 years of age, followed closely by those from 60 to 69 years, though, as Table I. shows, no age except the very earliest is exempt from the possibility of attack. With regard to position in life my own impression is that it is as frequent amongst the poor as amongst the rich. It would not give fair results to quote my own statistics on this point. This opinion would be decidedly confirmed if we include cases of rheumatoid arthritis of the hip-joint, sciatica being, I believe, merely a preliminary stage of this crippling disease, and one from which the poor, for plain reasons, are likely to be greater sufferers than the rich.

The symptoms of a typical example of sciatica are something like the following. To begin with there is some feeling of soreness in the hip and thigh, varying in degree from tingling or a feeling of "pins and needles" to sharp pain. This pain is aggravated by movements of the leg or it may attack the unfortunate sufferer in bed at night. Certain kinds of movement originate or increase the painful feelings, notably the exertion of getting into bed or the attempt to cross the affected limb over the sound one. Along with this latter symptom there may be a certain amount of powerlessness to execute this particular movement. The patient almost always walks with a limp on the affected leg. When the pain is severe at night there is, as might be expected, a feeling of restlessness and, without actual startings, there are often small local cramps. A marked peculiarity of the pain is that after some time it comes to be complained of on the outer side of the leg, extending in some cases as low down as the heel. There are also occasional patches of anæsthesia, generally on the outside of the thigh or leg. Such is a description of the symptoms of the complaint; the signs are described by Osler as tenderness on pressure over the sciatic notch or in the middle of the thigh. He mentions also that there is tenderness on pressure on the lower part of the sacrum, also over the head of the fibula and behind the external malleolus and over the heel and toe, but not on the inside of the foot. Taylor's description is practically identical.

The pathology of sciatica as dealt with in the books to which I have had access is meagre. Gowers says that it is, indeed, a genuine neuritis, such having been actually found in a few cases. Osler affirms that the condition of the nerve has been examined in several cases and that in the operation of stretching it has been observed to be swollen and in a condition of interstitial neuritis. Sciatica is a comprehensive term and one familiar, perhaps too familiar, both to the patient and to his physician. So much is this the case that I fear many medical men are content with the subjective evidence and neglect the objective aspects of the disease. Indeed, I can only thus explain the present persistent ignorance, if I may be allowed to use such a term, as to its real nature which seems universally to prevail. It is one of many examples of the dangers of generalising too much and of the mistaken idea that if we are able to label a complaint we, as a matter of course, know how to cure it. No belief could be more fatal to sound practice, not only in this case, but we may say in that of almost every ailment which afflicts humanity. In my early days I was content to accept, as I have said was the general rule, the patient's or his medical adviser's diagnosis and without any special local examination of the affected limb to proceed to treat sciatica by the usual round of waters, baths, and massage. The first clear indication for treatment I came to see as being imperative was the necessity for *rest* and the bad effects resulting from insisting on or allowing exercise or very rough or excessive massage of the limb. I was struck with this peculiarity in a disease which was supposed to depend to a large extent on mental conditions and which distraction of any kind should usually alleviate. Having thus become convinced of the absolute need for rest I began to think whether sciatica might not be an affection of the hip-joint. About this time I came across some remarks of a great surgeon, fortunately still left to us and to science, Mr. Jonathan Hutchinson, who was of the opinion that a certain number of cases of sciatica were really due to trouble in the joint. The next step in the history of the evolution of my opinion was naturally the careful examination of the limbs of patients affected with sciatica. At first, with the exigencies of a busy practice confined to a short season of the year, I did not carry out this examination so thoroughly as it should have been conducted, and even yet there are difficulties, especially, as you can understand, in the case of women, that prevent such a minute examination of the physical condition of the hip and its surroundings as ought to be gone through.

In examining a patient the subject of sciatica there is a certain routine which I have found from a lengthened experience to be best, and I would venture to recommend my professional brethren to follow the same method. Ask the patient to lie down, as he stands in his clothes, on his back on an even firm couch; then, bending the affected limb at the knee, perform the passive movements of flexion, external rotation, internal rotation, and extension by Thomas's method at the hip-joint of the affected leg. If the case be at all recent one or more of these movements will cause pain, very often sharp pain, as the patient's countenance frequently reveals. Having carefully noted these signs, then ask him to undress and proceed to inspect the gluteal region. With the patient lying flat on his face and relaxing his muscles, you note whether there is wasting in this region or a diminution in the original number of the folds of the nates, and on comparing those of the opposite hip and the two thighs also together I venture to predict that in almost every case of sciatica you will discover softening or wasting and flattening of the hip muscles and more or less obliteration of the natal folds of the affected side. With the patient lying on his sound side you then

proceed to inspect the capsule of the hip-joint. In some cases you will find it more prominent on the affected side and in a very few (but very seldom, for obvious reasons) you may be able to discover that there is increased heat over the joint. The position of the articulation is best made out by making sure of the exact relation of the anterior superior iliac spine and the highest point of the trochanter corresponding to the joint you suppose to be affected. The next thing to do is to examine carefully and without prejudice the presence or absence of tenderness on pressure over the capsule. This investigation has to be gone about keeping in view the fact that the patient is not an impartial witness, so to speak; he is very apt to confound symptoms with signs and his mind has been so intent on the suffering, say, in his foot that he refuses to help you in your attempts to discover the important sign you wish to make out—i.e., whether coxal tenderness be present or absent. When it is considerable you are independent of his preconceived ideas. In many cases moderate pressure with the point of the thumb over some part of the capsule causes so much pain that he winces unmistakeably. Of course, to make yourself certain you compare the two sides and by all means follow the line of the sciatic nerve and try to discover whether there is or is not tenderness on pressure along its course.

But in order to draw a proper picture of sciatica it is necessary to consider some general questions which bear very strongly on its essential features; and the first matter to which I ask your attention is the nature and origin of pain. In dealing with this branch of my subject I scarcely need to apologise for making reference to Hilton. His book is one which should be in the hands not only of every young practitioner but it deserves to be continually consulted by us older men. In summarising the lectures on Rest and Pain as delivered by him before the Royal College of Surgeons of England more than 40 years ago he says "that every pain has its distinct and pregnant signification if we will but carefully search for it." And again: "I have striven by the agency of a more complete anatomy to render plain the meaning of pains which are obscure." Further on he says: "From the pain which follows the intrusion of a particle of dust into the conjunctiva to the most formidable diseases we have to treat pain the *monitor*." From beginning to end of his discourse he dwells on the absolute necessity of following up the pain to its real source and by very numerous examples he enforces this lesson on his readers. The causes of pain he searches for by a study of the anatomy of the nerves and he does not rest with mere empty phrases, such as neuritis, neuralgia, &c. He goes on till he reaches the rea origin of the causes o suffering. Thus, without exception, from one end of the book to the other he finds no instance in which nerve trunks are affected but rather the ultimate endings of their filaments. Has not nature arranged her lines of communication so as to carry messages correctly between those minute organs of sensation and the centres of motion and feeling? And is it likely that on the face of it she should have so constructed her telegraphic circuits that a mere passing influence, such as cold, heat, or even a certain amount of pressure, would seriously interfere with her perfect economy? Who in our day would refer toothache to anything else but to something which, like caries, has its source in some distinct *local* mischief either in the teeth or their sockets? It may be said, What, then, of trigeminal neuralgia? I am not prepared to deny that a continual series of shocks shall not injure the merely conductive parts of the nerve, just as the wire carrying an electric current may not be altered so as to affect its powers of conduction. Yet from some little study of that fell disease—tic doloureux—I boldly affirm that in every such case the pain originally starts from the sensory extremities of the nerve affected and that anything more essentially barbarous in the way of surgery than the excision of a portion of its substance or of the entire Gasserian ganglion I cannot conceive, unless it be forcible stretching of the sciatic nerve for sciatica. There is very little serious pathological evidence of inflammatory matter except the assertions of some surgeons of having found adhesions between the nerve and its sheath, or a swelling or redness of its substance in the course of an operation. Surely some careful morbid anatomist would oftener have found something more distinctly abnormal.

It is said in almost all the books that tenderness on pressure of the nerve trunk is to be found in most patients, but in the many cases which I have observed closely I have made this sign out in only a very few. Again, why should there not be neuritis of such nerves as the ulnar, which lies so near the surface, as of the sciatic nerve? Oh, it is said, the latter is so much more exposed to injury. Is it really more exposed than the ulnar? I consider it nothing less than an accusation against the Master Builder of us all to make such a statement. A very little consideration will show that it is incorrect. The nerve trunk from beginning to end is elaborately protected and so ingeniously isolated and packed away as to be as little liable to injury and violence, consistent with the movements of the leg, as it is possible to make it. Everything, therefore, *a priori* points to the extrinsic origin of the pain of sciatica. Where, then, is the starting-point of the pain? I answer, In the hip-joint. I do not deny that it may have its origin in tumours pressing on the pelvic portions of the nerve or in very rare cases from the presence of large accumulations in the lower bowel. But with a long experience of over 30 years, during which time my attention has been specially directed to sciatica, I have never seen such causes excite real sciatic pains, although I have seen them affect the anterior crural nerve and its branches. If we assume that the origin of the pain we are dealing with is in the hip-joint, what are the proofs? I have said that the pain is extrinsic in origin. Where and what are the connexions between the hip-joint and the extremities of the sensory nerves which supply the skin of the outside of the leg and the heel? The nervous supply, according to Cunningham, is the following: 1. Anterior crural nerve. The posterior division supplies the quadriceps extensor muscles and gives off irregular branches to the hip-joint as well as to the knee-joint. 2. Obturator nerve. The anterior division supplies the hip-joint. 3. Sacral plexus. The nerves to the quadratus femoris and the gemellus inferior supply a twig to the hip-joint. To trace the connexion between the nerve-supply of the joint and the areas of the skin in which the pain is felt we find that the cutaneous branches of the above nerves, according to the same authority, are as follows: 1. The anterior division of the anterior crural supplies the internal cutaneous and middle cutaneous, the inner side of the thigh, and the back of the knee. The posterior division by the long saphenous supplies the inside and back of the leg. 2. The anterior division of the obturator nerve supplies cutaneous branches to the inside and back of the thigh. The posterior division supplies the knee-joint. 3. The sacral plexus supplies cutaneous branches to the heel and the skin of the leg below the knee, except to the inner side which is supplied by the long saphenous.

It is plain from the foregoing account that there is ample communication between the hip-joint and the skin of the thigh and leg to account for the referred pains from the joint to the cutaneous surfaces. Hilton's account of the nerve distribution[1] is as follows:—

> I shall not dwell upon the anatomy of the hip-joint except to remind you that its muscles perform their functions in groups, that each group has a trunk nerve of its own, and that each nerve contributes a branch to the hip-joint itself. A branch of the anterior crural nerve passes to the hip-joint, a branch of the obturator going to the capsular ligament and to the ligamentum teres, and a branch proceeding to the posterior aspect of the hip-joint from the sacral plexus which supplies the gemelli, the quadratus femoris, and the obturator internus. This anatomy should be borne in mind because it explains how it happens that the remote and sympathetic pains associated with an inflammatory condition or chronic disease of the hip-joint are not always found at the same part of the limb. We all know very well that in some cases of hip-joint disease one of the earliest symptoms is remote from the actual seat of mischief—namely, pain within the knee or on the inner side of the knee-joint; and we are familiar with the explanation of it—namely, that the obturator nerve, which contributes a branch to the ligamentum teres, sends a branch to the interior of the knee-joint, to the inner side of it, and sometimes even lower down. The inflammation or a diseased condition of this ligament necessarily involves the little branch of the obturator nerve and a "sympathetic" pain is produced at the other end of the same nerve on the other side of the knee or within the knee-joint. As it is frequently with the obturator, so it ought to be sometimes with respect to the other nerves of the hip-joint; but the frequency of this knee pain, whether within the knee-joint or on its inner side, indicates that the ligamentum teres is the most common seat of early disease. We observe this same "sympathetic" pain in old persons who may or may not have had a slight injury to the hip but in whom the ligamentum teres softens down and disappears. Such persons often complain of severe pain within or on the inner side of the knee-joint. Some years ago I saw a case in which, after injury to the hip, this symptom of pain in the knee-joint was well and early marked. Afterwards the limb was slightly shortened and the foot everted, imitating the reputed symptoms of fractured neck of the thigh bone. I subsequently examined this patient's hip-joint and found that the injury was confined to the ligamentum teres.
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> Now suppose the anterior part of the capsular ligament (which receives a branch from the anterior crural) is inflamed, applying the

[1] Hilton on Rest and Pain, p. 306, second edition.

same law, you will see how it may happen that a patient with a diseased hip-joint may have pain on the front of the knee or on the inner side of the ankle, because the anterior crural nerve sends branches to these particular spots. Or *if the inflammation or injury begins at the posterior part of the capsular ligament which receives a branch or branches from the sacral plexus, then the patient may have a "sympathetic" pain actually at the heel or in the foot.* I repeat these remarks in reference to the nervous supply because an impression, I think, is abroad that the "sympathetic" pain of hip-joint disease is always on the inner side of the knee-joint and that this local symptom is essential to a correct diagnosis. This, it seems to me, is not true. I admit its greater frequency because, as has been already intimated, the ligamentum teres is, perhaps, the part where hip-joint disease in reality most commonly begins, and this corresponds with the frequent observation of the "sympathetic" pain on the inner side of or within the knee. To put this point more strongly: it sometimes happens in hip-joint disease that there is no pain in the knee-joint at all (I have seen several such cases); this local pain, therefore, must be considered as a fortuitous, not a constant, symptom and not always to be relied upon as indicative of diseased hip-joint.

We ought further to bear in mind that the hip-joint lies very deeply and that therefore one of the earliest symptoms of an inflammatory condition—a sense of heat in the part—is not likely to be recognised early in the disease except by careful manipulation. There is no local symptom which characterises the inflammatory condition so certainly as the increase of temperature in and over the part inflamed. This is one of the symptoms on which every surgeon may positively rely when examining a suspected disease of any joint, provided he is able to make accurate manual examination of it in reference to the existence or non-existence of an inflammatory condition. When this local symptom of increased heat exists it is absolutely satisfactory. But you will observe it is one of the symptoms which you may not be able to reach in a very early stage of hip-joint disease, because the joint, which is the seat of the inflammatory heat, lies so deeply and is covered at some parts by such a large mass of soft structures that it is difficult for the hand to appreciate an increase of temperature on the surface. When, however, with the symptoms of lameness and tenderness, to which I will presently allude, you find an increase of heat in the neighbourhood of the hip-joint, you may be sure of the existence of a subjacent inflammatory condition.

Here, then, we see two sources of fallacy which have existed in the diagnosis of hip-disease—one as to the position of the sympathetic pains and the other as to the non-existence of heat. If we say that the "sympathetic" pain is always on the inner side of, or within, the knee and we are called to a case where it does not exist, of course it excludes from our consideration hip-joint disease; or if we say that every inflamed joint is marked by an increase of heat and we are called to a case where this does not exist (but I think it is very rarely absent), of course that again would exclude hip-joint disease from our consideration.

I have tabulated 418 cases of sciatica of which I have had personal knowledge. All the cases came directly under my cognisance, most of them under my own care and treatment. I am sorry to say that I have not been able, for different reasons, to give all the details I should have wished to be in a position to present to you. One point I must regret not having kept an exact record of is *lameness* of the affected leg. I think I may fairly enough assume that it was present in the great majority of the cases. In only one do I find it noted that walking did not cause pain and lameness. In 283 cases not specially observed I found 61 with tenderness on pressure over the capsule of the hip-joint, whereas in 125 cases specially examined (see Table II.) on this and the following points affecting the

TABLE II.—*Diagnostic Results obtained from 125 Specially Observed Cases.*

Gout or rheumatism observed in	65	cases or	52	per cent.
Lumbago	28	,,	22	,,
Pain on flexion...	49	,,	39	,,
Pain on internal rotation ,,	51	,,	41	,,
Pain on external ,, ,,	48	,,	38	,,
Wasting of glutei ... ,,	49	,,	39	,,
Incomplete natal folds ,,	37	,,	30	,,
Tenderness over capsule ,,	69	,,	55	,,

One or other of these signs was observed in 100 cases, or 80 per cent.

TABLE III.—*Showing the Average Intensity of the Symptoms (when Observed).*

Pain on flexion	70 per cent.
Pain on internal rotation	60 ,,
Pain on external ,, ...	60 ,,
Wasting of glutei...	55 ,,
Absence of natal folds	55 ,,
Tenderness of capsule	60 ,,

In 283 cases not specially observed tenderness over the capsule was noticed in 61, or 21 per cent., and gout or rheumatism in 140, or 48 per cent.

The following are still to be noted: One better, taking exercise; one, heat over the joint; four, fulness over the joint; and one, tenderness over the sciatic nerve.

movements of the hip-joint there was evidence of tenderness on pressure over the capsule in 55 per cent. In 39 per cent. there was pain on flexion, in 41 per cent. pain on rotation inwards, and in 38 per cent. on rotation outwards. In only a very limited number was there found manifest distension of the capsule—say 1 per cent.—and in still less a number—0·25 per cent.—was there any evidence of heat over the joint discovered. In 52 per cent. of the cases there was evidence of gout or rheumatism in other joints and in 22 per cent. there was evidence of the occurrence of lumbago. In 80 per cent. of the cases taken altogether one or other of the above symptoms was present. A small number of cases which had begun as sciatica had gone on to ankylosis of the joint and would have been set down as examples of rheumatoid arthritis of the hip.

What may be assumed as fair inferences from these data? I think it may be fairly said that sciatica is some affection of the hip-joint and not neuritis of the sciatic nerve, that it is connected with the gouty or rheumatic diathesis, and also with so-called mono-articular rheumatic arthritis of the hip. The flattening of the glutei and obliteration of the folds of the nates which were present in 39 and 30 per cent. respectively of the cases strongly support this contention. It has also to be remembered that the nerve-supply to these muscles comes not from the sciatic nerve but from the sacral plexus. On the other hand, if sciatica really were an affection of the sciatic nerve, why should not the muscles of the whole leg be affected and why should the wasting and other nerve derangements be so localised and not extend to the whole limb? Again, even those who speak of sciatica as being a true neuritis are forced to allow that the electrical reaction of degeneration of muscles is never present. This is still further shown by the fact that sciatica rarely if ever leads to a permanent affection of the nerves and muscles. Indeed, it is characteristic of the disease that the vast majority of cases recover in time—it may be long or short—and in my opinion the length is mainly dependent on the fact of sufficient rest having been given to the joint—though they may be attacked again and again. If we have really to deal with an inflammatory condition of the hip in gouty and rheumatic subjects (and surely there is no good reason for these diseases not attacking this as well as the other joints, although it may be admitted that these diseases have a partiality for the extremities of the circulation) there is abundant reason for prescribing rest. It is not so easy to say why it should be of such importance in a mere neuritis, although I confess that this argument cannot be pushed very far. Again, many cases are aggravated by too early massage and forced movements, as Buzzard says, while careful massage and cautious passive movements at a later stage are of the utmost value. Do not these results tell strongly in favour of the affection being connected with the hip-joint, being precisely what we find in gouty and rheumatic affections of the knee and other joints? So accomplished a physician as Osler advocates very strongly the need for rest to the affected limb and even goes the length of insisting upon the application of the long splint to the leg. One wonders how he did not take one step more and come to see that such a support fixes the hip-joint and by so doing relieves the pain, giving the articulation (just as in so-called strumous disease) the best chance for recovery. We have seen that there is no proof of any real neuritis of the sciatic nerve, that there are ample means of communication between the extremities of the nerves in the joint and the surface of the skin of the leg, that movements of the joint are often either limited in extent or cause pain or both, that the muscles most closely connected with the hip articulation become atrophied, that there is very often tenderness on pressure over the capsule of the hip-joint and even some swelling, and occasionally, but rarely for a manifest reason, a feeling of heat imparted to the hand, that sciatica is universally admitted to be related to gout or rheumatism in most patients, and lastly, that gout and rheumatism are actually simultaneously present in other articulations.

Most important of all is the fact that in almost every case of sciatica there is present lameness of the limb affected. The patient constantly limps when walking. It is true that a very small percentage of those I have recorded (in 1 in 400) the sufferer has felt better when taking exercise. This can easily be explained on the same principle as properly applied massage giving relief. Does not the surgeon (for I hold sciatica to be a surgical disease) in every other case of lameness of the lower extremities, and, indeed, in every affection of the movements of the upper limb, proceed primarily to consider which of the joint surfaces are diseased? If on careful examination there is found no clear

evidence of any trouble anywhere but in the hip-joint, while there is such to be found in that articulation, are we not justified in assuming the cause of the lameness to be connected with this joint and in considering that sciatica means trouble in the hip-joint and as a rule nowhere else?

It is difficult, if not impossible, to prove statistically a connexion between sciatica and rheumatoid arthritis of the hip-joint. Where a pelvic deposit is found and still more when ankylosis has been established the case is set down at once in the category of so-called rheumatoid arthritis and is removed from that of sciatica. I can only state my belief that the one complaint merges into the other and that it is impossible at certain stages to distinguish between them and that they are in fact one disease, sciatica when unrelieved eventually terminating in rheumatoid arthritis which in its turn leads to bony deposits on the femur and also on the ilium, these changes again proceeding to ankylosis between the femur and the pelvis.

Seeing then that trouble of a gouty or rheumatic kind does account for all the signs and symptoms of sciatica, is there any necessity to look for other explanations of the pains? We have seen that there is no pathological evidence of the presence of neuritis. Neuralgia is too vague a term to found a decision upon. In the course of my studies of the disease I have come across the cases given by Fuller 40 years ago (six in all) in his well-known treatise on rheumatism which I think unconsciously prove that the view of sciatica originating in the hip-joint is the correct one.

In the first case the patient was "easy when lying down, but the least attempt at motion invariably caused acute pain in the hip, thigh, and leg. The act of coughing, sneezing, or laughing were also productive of an attack." In the second case "the act of coughing, sneezing, and the least attempt at motion in bed brought on a paroxysm (and so also did pressure, however slight, in the course of the nerve)." In the third case (sciatica in both legs) "any attempt at motion gave rise to involuntary starting of the limb." In the fourth case "his easy position was lying on his back in bed with his knee slightly flexed. There was not any tenderness of the nerve on pressure." In the fifth case "the pain extended from the left hip down to the ankle, but no specially tender spot could be discovered in the course of the nerve. The pain was of a dull wearing character but was much increased by action and every act of straining, as in coughing, sneezing, and the like." In every case the origin of pain in the joint seems a complete explanation of the symptoms. In one of the cases tenderness on pressure over the nerve is described as being present, while in two it is said to have been absent. That the extremities of the nerves supplying the skin over the course of the main nerve should have been excited, so to speak, in this one instance is surely not to be wondered at, even if the starting-point was in the hip-joint.

When we come to the question of the proper treatment for sciatica there is very little room for difference of opinion. The main point—rest for the articulation—is insisted on equally by the advocates of the view that sciatica is of the nature of neuritis as it is a necessity if the hip-joint be affected. Given so much, there is very little more demanded by the advocates of the latter theory. Blisters, for example, may do some good; and, at any rate, their proper application demands rest for some time in bed. And the same may be said of applications in the form of sedative lotions and fomentations. Cure by acupuncture has almost entirely disappeared, a proceeding much in vogue 30 years ago. So much for the local treatment in the early stages. Massage and electricity, it is generally allowed, are contra-indicated at this period of the illness. The greatest advocates for the seat of the complaint being in the hip-joint must allow that when the inflammatory period is past these remedies are of the greatest service. In the way of constitutional treatment anti-gout and anti-rheumatic remedies are recommended equally from both points of view. The use of oil of turpentine has undoubtedly proved of benefit, some say from its purgative effects. But may not that be the result of its diuretic action? This would hold good whether effusion was present in the nerve sheath or within the capsule of the joint itself. Calm consideration of the results of treatment will, I think, go to show that the theory of a hip-joint affection squares more readily with the facts than with the view commonly accepted that the disease is an affection of the sciatic nerve. If so, then we shall be founding our practice on a clearer and more distinct comprehension of the disease we have to treat and shall not be led away by false and ill-digested assumptions of the effects of so-called cures supported it may be by rash and over hasty observations.

PS. (August 15th, 1903).—I have been much struck in cases I have come across lately with the fact that the pain seems to be almost always limited at the commencement of the attack to the region of the hip. Why so, if the sciatic nerve be *primarily* affected?

A Clinical Lecture

ON

THE SIGNIFICANCE OF PAIN AND TENDERNESS IN CASES OF INFLAMMATION OF THE APPENDIX.

Delivered at the London Hospital on July 3rd, 1903,

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GENTLEMEN,—The abdominal viscera are for the most part entirely insensitive to pain. The nerves with which they are supplied are not connected directly with that part of the brain which is concerned with the development of sensation. This has long been known to be true of individual organs under special conditions. An ulcer of the stomach, for instance, may exist, unknown and unsuspected, for an indefinite length of time until suddenly it perforates and sets up acute peritonitis. The intestine may be torn across inside the abdomen without the patient being aware at the moment that he has sustained any serious hurt. Great lengths of intestine have before now been cut away accidentally. After colotomy, when an unnecessary amount of bowel protrudes at the artificial anus, the intestine may be divided with scissors, or cauterised, or held with artery forceps without a sign of pain. An ulcer may develop in the appendix and remain unnoticed, so far as pain is concerned, until the floor gives way. A loop of gangrenous bowel may be resected and sutured under the patient's eyes. I have known a man walk into hospital 24 hours after an accident with a ruptured bladder, only concerned because he did not pass any urine. Incising the stomach in gastrotomy or the intestine in enterostomy is not felt. Isolated facts of this kind have long been known; arguing from them it has been found possible to perform extensive operations upon many of the abdominal viscera under local anæsthesia, the wall of the abdomen only being rendered insensitive. On the other hand, a very slight stimulus that affects the parietal portion of the peritoneum causes acute pain. Dragging upon the mesenteric attachment, for instance, is very painful. I have known even the slight pull caused by placing a ligature around a protruding portion of the colon after colotomy to bring on an attack of colic. Applying Dupuytren's enterotome to the cæcum does the same.[1] Lennander[2] has described a series of abdominal operations under local anæsthesia in which he carefully and systematically investigated this point, always with the same result. The least tension upon the root of the mesentery (not upon other parts of it) causes pain which is nearly always referred to the umbilicus. The effect is the same whether there is a free mesentery or whether the peritoneum is reflected from off the sides of the viscera, leaving a portion of the circumference of the bowel attached to the parietes by cellular tissue. Pressure, whether external, due to some cause acting upon the abdominal wall, or internal, arising from the mutual relations of adjacent viscera, has exactly the same effect. Applied to the viscera it is not felt. The wall of the bowel or of the stomach can be clamped with pressure forceps and the arteries tied without exciting the least sensation, so long, that is to say, as there is no traction. Applied to the parietal peritoneum, on the other hand, either directly at

[1] Fowler: Annals of Surgery, 1894, vol. xix.
[2] Centralblatt für Chirurgie, Feb. 23rd, 1901, No. 8.

the edge of an incision or indirectly through the abdominal wall, the least touch is felt at once and most acutely.

Inflammation of the parietal peritoneum or of the post-peritoneal cellular tissue, whether due to an irritant acting directly upon the serous surface or to absorption from some comparatively distant source of infection, naturally makes the parts that are sensitive already tenfold more so. The slightest traction becomes almost intolerable. On the other hand, inflammation has no effect whatever upon the visceral layer. The wall of the bowel, whether inflamed or not, is quite insensitive. It has no sensory nerves. It has been suggested by Lennander[3] that one source of abdominal pain may be the chemical action upon the nerves of toxins absorbed from the intestine and carried into the neighbourhood of the nerve twigs by the lymphatics without necessarily causing inflammation. This must be regarded as doubtful, or at least as not proven, and it follows, therefore, as a natural corollary from the above facts that in the absence of other mechanical stimuli the cause of abdominal pain and colic is either pressure or traction upon the branches of the spinal nerves which are distributed mainly, if not entirely, to the abdominal walls, and that the intensity of the pain (so far as the individual is concerned) depends upon the degree of traction or pressure on the one hand and upon the condition of the surrounding tissues as regards inflammation upon the other.

It follows, moreover, that in acute inflammation of the appendix (1) absence of pain is no indication that the most serious mischief is not going on. On more than one occasion I have operated and found the appendix on the point of giving way in spite of the patient's protestations that he had never had more than a twinge of pain. 2. The initial pain of acute inflammation of the appendix which is so commonly referred to the umbilicus is due to the peristaltic action of the cæcum or of the appendix dragging upon the attachment of the peritoneum to the abdominal wall. This is especially likely to occur when the appendix is fixed by adhesions or the mesentery is short or twisted upon itself. In one case of inflammation of the appendix in which Lennander was operating under local anæsthesia the slightest traction upon the anterior layer of the parietal peritoneum caused pain which the patient spontaneously described as exactly like that which he suffered during an attack. 3. The cessation of this umbilical pain without improvement in the other symptoms is due to cessation of the peristalsis caused by the inflammation having spread to the muscular coat of the bowel. When this occurs the wall of the bowel is no longer able to contract and this source of pain disappears. That this is so is shown by the fact, which I have often pointed out, that the cessation of the umbilical pain is coincident with the formation of a local swelling which at this stage of the disease is due to distension of the bowel and thickening of its walls by inflammatory exudation. 4. The development of local pain, which as a rule precedes by some short time the cessation of the umbilical pain, means that the inflammation has spread from the appendix to the parietal peritoneum or to the post-peritoneal cellular tissue. These are the only structures concerned (at this period of the disease) which are supplied with nerves capable of transmitting the sensation of pain. Absence of local pain does not indicate anything. Severe pain is of serious import, as it implies either wide extent or great severity of inflammation.

Tenderness on pressure in cases of inflammation of the appendix may be deep or superficial, or both deep and superficial tenderness may be present at the same time and in the same place. Deep tenderness (which I shall deal with first) is naturally restricted to those parts of the abdominal walls and viscera which are supplied with sensory nerves. The bowel itself, whether inflamed or not, is not tender on pressure except where it is in contact with the post-peritoneal cellular tissue, so that the pressure can be transmitted to this. The presence of deep tenderness in inflammation of the appendix indicates that the inflammation has spread to the parietal peritoneum or to the cellular tissue beneath it. Deep tenderness may be general all over the lower part of the abdomen, or it may be confined to, or, what is especially frequent, most marked at, one spot which is known as McBurney's point. "This point is very accurately in the adult from one and a half to two inches inside of the right anterior superior spinous process of the ilium on a line drawn to the umbilicus. In children it is, in proportion to their size, so much less distant from the spinous process. Occasionally this most sensitive spot will be found half an inch or so nearer the pubes and sometimes this sensitive area will be larger than usual, but from the first hours of the disease, even up to the end of several days, this sign may be clearly made out in every case." "In late stages of the disease this sign does not usually exist."[4] According to McBurney this spot, which is only to be made out by deep pressure, corresponds to the base of the appendix. In a measure this is correct, but it is more accurately described as corresponding to that part of the parietal peritoneum which is in closest and most immediate connexion with the lymphatics that run from the inflamed organ. These, conveying the toxins, or in many instances, no doubt, the organisms themselves, from the appendix, become inflamed. The inflammation spreads from their walls to the surrounding cellular tissue and the serous membrane near, and as a result the sensitiveness becomes so great that pressure, even weeks after the acute attack has subsided, causes pain.

As an assistance in diagnosis there can be no doubt of the value of this point. It is an indication that the parietal peritoneum at that spot is unduly sensitive from some cause, and by far the most common cause is the extension of inflammation from the appendix. But of course this is not the only cause, and as the lymphatics from other viscera contained in the abdomen and pelvis may either communicate with those from the appendix or lie in their immediate neighbourhood it is evident that a similar tender spot may occur in other circumstances. Like all the other symptoms of inflammation of the appendix it must not be taken by itself but in conjunction with the others that are present at the same time. In exceptional instances the most tender spot lies at the back immediately over the crest of the ilium. This is strongly suggestive of an appendix lying behind the colon or at least of inflammation spreading directly upwards in the subserous cellular tissue in that situation, a variety of inflammation of the appendix in which I have often found the constitutional symptoms to be far more important and serious than the local ones. More frequently there is a very tender spot near the brim of the pelvis, most easily reached through the wall of the rectum. In one case under my care contraction of the bladder was exceedingly painful. The appendix was adherent to it and the bladder when it contracted naturally dragged upon it and through it upon the parietal peritoneum. Wherever it occurs this deep local tenderness at the beginning of an attack indicates the part of the parietal peritoneum which is first involved. Later, when the inflammation has spread more widely, the local becomes merged in the general tenderness which extends all over the lower part of the abdomen. But in cases in which no operation is performed it may, like McBurney's spot, become evident again later; the inflammation subsides last in the part which was first and most severely attacked. I have seen this well marked on several occasions and no patient can be considered safe from a relapse so long as this tender spot persists.

In one case of peritonitis following inflammation of the appendix under my care local tenderness was entirely absent. I have known the same thing to occur after perforation of a gastric ulcer and I believe the explanation to be the same in both instances. In both there were a great deal of effusion into the general peritoneal cavity and but little evidence of reaction or inflammation, and in both I believe the nervous system was overwhelmed so suddenly, partly by the shock, partly perhaps by the rapid absorption of unusually virulent toxins, that it was incapable of feeling pain. Absence of deep tenderness, therefore, when other well marked symptoms of inflammation of the appendix are present, may be regarded as of very grave import.

In addition to this deep tenderness there is in most cases of inflammation of the appendix a very marked degree of cutaneous hyperæsthesia. Some patients describe the sensation caused by touching the skin with the finger as tickling; to others it causes positive pain and they shrink even from the contact of the bedclothes. In the majority of instances the distribution of this cutaneous hyperæsthesia corresponds to the segmental area described by Head[5] as the eleventh dorsal, but the areas corresponding

[3] Mittheilungen aus den Grenzgebieten der Medicin und Chirurgie, Band x., Heft I und 2.

[4] McBurney: Discussion before the Medical Society of New York February, 1891.

[5] Brain, vol. xvi.

to the tenth and twelfth are not uncommonly affected as well. The whole of these areas may be equally sensitive, or there may be one point in front or behind far more sensitive than the rest. Occasionally the hyperæsthesia is confined to one surface of the body, either anterior or posterior, and sometimes it is equally well marked on the left side as on the right. In one case under my care both the extent and the degree of hyperæsthesia were greater on the left side than on the right, without, so far as the appendix was concerned when it was exposed by operation, there being any apparent reason for it.

This local hyperæsthesia is evidence that the corresponding spinal centre is receiving from some part of the body to which its nerves are distributed stimuli of unwonted intensity and that it is in consequence unduly sensitive to ordinary impressions. These stimuli may come from the muscles. It is well known that the skin over the insertion of muscles that have been overworked is intensely hyperæsthetic. Or they may come from branches distributed to the abdominal wall. Quite recently I have had under my care a case of retroperitoneal abscess of very large size, not connected with any of the viscera, lying behind the liver and stomach, causing, as one of its most prominent symptoms, extreme sensitiveness of the skin on the right side of the body over the region of the sixth to the tenth dorsal segmental areas. Or they may come from the abdominal viscera, travelling to the centre along its visceral branches. But, as Head has pointed out,[6] they do not come from the peritoneum. So long as the inflammation is confined to the surface of the serous membrane there is no true cutaneous hyperæsthesia in peritonitis. Like McBurney's point, therefore, cutaneous hyperæsthesia over the region of the eleventh right dorsal segmental area may occur under a variety of conditions: the stimuli that cause the morbid activity of this centre may come along any of its branches, muscular, parietal, or visceral; but when the hyperæsthesia is definitely associated with other evidence pointing to inflammation of the appendix it may be taken as a clear indication that the wall of the appendix itself is involved and that, therefore, though the inflammation may subside, it will in all probability leave some permanent alteration in the appendix which will necessitate operation later.

There is one other point about the cutaneous hyperæsthesia in inflammation of the appendix which, if borne out by further observations, is of very great importance. Sudden cessation of the hyperæsthesia, without at the same time any corresponding improvement in the general symptoms, suggests very strongly that the appendix has become gangrenous and that immediate operation is absolutely necessary to prevent septic peritonitis. I have seen this in two well-marked cases of inflammation of the appendix and I have known a similar occurrence in a case of twisted ovarian pedicle in which also cutaneous hyperæsthesia was present at the first. The exact relation between these events is not obvious at first sight. It probably means that when the inflammation is so intense as to lead to gangrene either the nerves are no longer able to convey stimuli to the centre involved or that the centre itself is exhausted and can no longer respond. But whatever may be the explanation there can be no doubt of the fact that in these three cases the cessation of the hyperæsthesia coincided with the beginning of gangrene, and in such circumstances I regard instant operation as imperatively required.

[6] Loc. cit.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN.—The following officers and members of the council for the session of 1903-4 were elected at the annual general meeting of this society on July 23rd. Council: Dr. J. Ford Anderson, Dr. C. W. Chapman, Mr. H. J. Curtis, Mr. H. L. Carre-Smith, Mr. Clinton T. Dent, Dr. C. N. Gwynne, Dr. E. Hobhouse, Dr. H. R. Hutton, Dr. R. Hutchison, Mr. F. Jaffrey, Dr. C. J. Macalister, Dr. A. Morison, Mr. R. H. Parry, Dr. J. P. Parkinson, Mr. George Pernet, Mr. H. Betham Robinson, Mr. Sydney Stephenson, Dr. S. B. Smyth, Mr. Harold J. Stiles, Dr. Frederick Taylor, Dr. James Taylor, Mr. J. W. Thomson Walker, Mr. R. H. A. Whitelocke, and Dr. A. W. Wills. Honorary treasurer: Mr. R. Clement Lucas. Honorary secretaries: Dr. George Carpenter, Dr. Theodore Fisher, and Dr. G. A. Sutherland.

ON THE SO-CALLED STOKES-ADAMS DISEASE (SLOW PULSE WITH SYNCOPAL ATTACKS, &c.).

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DEFINITION.

Stokes-Adams disease is a clinical condition characterised by (1) a profound disturbance in the automatic mechanism of the heart—true bradycardia, hemisystole (false bradycardia), and allorythmia; (2) nervous symptoms—vertigo, syncope, pseudo-apoplexy, and epileptiform attacks; and (3) secondary symptoms—Cheyne-Stokes breathing, cardiac asthma, angina pectoris, and the vaso-motor accompaniment of profound heart-shock. The post-mortem changes are not constant. In a few cases coarse lesions of the nervous system have been found, in a small number no lesions whatever; in a large proportion of the cases arteriosclerosis is present. The clinical picture is very variable—there are acute, rapidly fatal cases, chronic cases in which for years the patient has slow pulse with syncopal or pseudo-apoplectic attacks, and forms in which slight but well-characterised attacks occur at intervals in persons apparently well.

HISTORICAL NOTE.

Adams's description is of interest.[1] His patient, a man, aged 68 years, was of full habit and subject to oppression of breathing and cough. When seen he was just recovering from the effects of an apoplectic attack which had suddenly seized him three days before, but he was well enough to be about the house and even to go out. What attracted Adams's attention were the character of the breathing and the remarkable slowness of the pulse (30 to the minute). His regular attendant informed Adams that during seven years this patient had had not less than 20 apoplectic attacks. After a day or two of heaviness and lethargy he would fall down completely insensible and on several occasions he had hurt himself. The pulse would become slower than usual and the breathing loudly stertorous. He never had any paralysis after the attacks. Death followed an attack and the heart was found to be very fatty. The valves were sound. There was no statement about the coronary arteries. R. W. Smith[2] refers to this case, and states that he had also noted a condition of slow pulse with fatty heart.

Stokes's much more important contribution is entitled "Observations on some Cases of Permanently Slow Pulse." He describes the case of a man, aged 68 years, who had recurring fainting fits which left him without any unpleasant effects. During three years he had had at least 50 seizures. They were induced by any circumstance tending to impede or to oppress the heart's action, as sudden exertion or distended stomach. He was never convulsed. The duration of the attack was seldom more than four or five minutes and during this time he was perfectly insensible. He had never been paralysed. When admitted his general health seemed to be very good. There was an apex systolic bruit and the pulse was 28 to the minute. The arteries appeared to be in a state of permanent distension, "the temporal arteries ramifying under the scalp just as they are seen in a well-injected subject." An interesting feature in this case was that the patient could ward off attacks by a peculiar manœuvre. "As soon as he perceived symptoms of the approaching attack he directly turns on his hands and knees, keeping his head low, and by this means he says he often averts what otherwise would end in an attack." While his heart was beating only at 28 Stokes noticed that there were occasional semi-beats between the regular contractions, eight of them in the minute. On his readmission there was noted a new symptom, a remarkable pulsation in the right jugular vein, which was more than double the manifest ventricular contractions.

Beyond the occasional reports of cases not much of special importance has appeared in England on the subject. The condition is only mentioned incidentally in Allbutt's "System of Medicine." Gibson discusses it in a very good section in

[1] Dublin Hospital Reports, vol. iv., 1827, p. 396.
[2] Dublin Journal of Medical Science, vol. ix., 1836.
[3] Dublin Quarterly Journal of Medical Science, 1846.

his "Diseases of the Heart." In France Charcot called attention to it in 1872, but to Huchard we owe a revival of interest, and in the various editions of his "Traité des Maladies du Cœur," under the name Stokes-Adams disease is found the best description in literature. In Germany the condition has not attracted attention, but within the past two years excellent papers have appeared by His, jun., Hoffmann, Jaquet, and Luce in the *Deutsches Archiv für Klinische Medicin*. In the United States a most comprehensive study of the slow pulse was made by the late Dr. D. W. Prentiss[4] of Washington when he presented before the Association of American Physicians a remarkable case in which the condition had persisted for a period of nearly two years in association with very frequent fainting fits. Of the 94 cases which he abstracted from the literature there were 32 which belong to the condition under consideration. In the case reported by Dr. Prentiss there was a necropsy, and it is stated that neither the aorta nor the coronary artery was atheromatous, which is somewhat remarkable considering the extreme grade of sclerosis in the peripheral arteries. There were no lesions of the pneumogastric nuclei. In the discussion which followed the above case Dr. F. P. Kinnicutt and Dr. Jacobi narrated typical cases. In 1895 I described the condition briefly in my lectures on angina pectoris. Dr. R. T. Edes[5] has reported a series of cases and given an exhaustive analysis of the literature of the subject. Babcock has a good chapter in his recently issued work on "Diseases of the Heart."

CONDITIONS IN WHICH SLOW PULSE IS MET WITH.

1. *Physiological.*—The statement is made that dark persons and the dark races—e.g., Bretons—have a pulse rate below the average. It does not appear to be the case with the African race. I know a family most of the members of which have a pulse-rate of about 60; one son died from Stokes-Adams disease, another, perfectly healthy, has sometimes a pulse rate of only 48. Cases which can be called physiological are not very common. The slow pulse of Napoleon rests upon tradition;[6] it has been suggested that his epilepsy and attacks of apathy may have been associated features in a chronic form of Stokes-Adams disease. There are remarkable instances in the literature, many of them quoted by Dr. Edes, of persons in good health for years with a pulse-rate from 30 to 40. The slow pulse of old age may be considered normal, but the physiological limit is passed when with advancing arterio-sclerosis there are attacks of vertigo or syncope.

2. *Neurotic.*—1. Organic disease of the brain, the cord, or the nerves. In tumours, in meningitis, in injury of the spinal cord, and in pressure on the vagi bradycardia may occur. Dr. Edes gives a list of cases in the literature. 2. Functional. In nervous debility, in perverted states of the higher centres, as in melancholia and hypochondriasis, the pulse-rate may fall below 60; in neurasthenia bradycardia may be a special feature. We must recognise, too, that severe and fatal attacks of Stokes-Adams disease may occur without any discoverable lesion in the nervous system, the heart, or the arteries.

3. *Toxic.*—(1) Inorganic poisons, such as lead; (2) bacterial poisons, as in diphtheria and typhoid fever; (3) vegetable poisons, as digitalis and tobacco; and (4) metabolic poisons, as in jaundice, uræmia, the puerperal state, and after prolonged exertion.

4. *Cardiac and cardio-vascular lesions.*—Valvular, myocardial, and arterial, alone or in combination; a large majority of the cases of bradycardia with nervous symptoms belong to this group.

VARIETIES OF STOKES-ADAMS DISEASE.

What is called Stokes-Adams disease is in reality a syndrome or symptom-complex, not a disease with constant anatomical lesions and a uniform etiology. The cases may be arranged in three categories.

1. *Post-febrile group.*—Following, more rarely in the course of, an acute infection—such as typhoid fever, diphtheria, pneumonia, scarlet fever, or rheumatism—bradycardia may occur with vertigo, syncope, or epileptiform seizures. A fair number of such cases are on record, and while Huchard is not inclined to regard them as instances of Stokes-Adams disease the main features are not to be distinguished. The attacks may recur for weeks, as in Schuster's case.[7] This form seems more hopeful, though the first attack may prove fatal. The following is a good illustration.

CASE 1.—A physician, aged 35 years, had on Feb. 8th, 1901, a streptococcus pharyngitis of moderate intensity, followed by acute nephritis. He convalesced satisfactorily and went to Florida on March 12th. He felt very well and had been taking a fair amount of exercise. At 4.55 A.M. on the 21st he was awakened out of sleep with a very peculiar sensation of numbness in the fingers and he felt faint and was covered with sweat. The pulse was only 16 to the minute but very forcible at the radial artery. He fainted and the physicians found him in a condition of extreme cyanosis and collapse, the sweat pouring from him, with a pulse-rate of about 20, quite regular, and the same at the heart and wrist. He was given hypodermic injections of ether and inhalations of oxygen. At 9 o'clock his pulse was 30. In the afternoon he regained consciousness and the pulse rose to 50. He was dazed and had no recollection of the attack. The cyanosis was extreme. On the next day his pulse was 60 but it was two or three days before he recovered completely. From the statements made by his physicians it was evident that his condition must have been critical. When I examined him on April 20th he was a robust, healthy-looking man, rather stout. The pulse was regular, with no intermission, and 76 to the minute. The apex beat was within the nipple line. The sounds were clear and of normal relative intensity; there was no change in the recumbent posture or bruit after exertion. The pupils were equal. The knee-jerks were present. There were no signs of any disturbance in the nervous system. In such a case it is reasonable to suppose that myocardial changes had followed the acute infection and were responsible for the profound disturbance in the automatic action of the heart with an associated acute dilatation. It is worth noting that in Case 11 the slow pulse was first noticed after an attack of pneumonia.

2. *Neurotic group.*—(1) With coarse lesions of the nervous system, as pressure on the medulla following injury (Holberton), narrowing of the vertebral canal (Lépine, Boffard), tumour pressing on the vagus, and degeneration of the trunks of the vagi. There has been no observation showing degeneration of the nuclei of the medulla. Charcot and Huchard have laid great stress on the bulbar features of the disease, but in the cases above referred to, particularly those of Holberton, Lépine, and Boffard, in which the symptoms were most characteristic, the lesions were extrinsic. A remarkable case is reported by Neuburger and Edinger in which a neurasthenic man, aged 46 years, with obstinate constipation, had vertigo and fainting attacks when at stool. For nine days before his death the attacks were associated with deviation of the head and eyes and a pulse-rate of 18 to the minute. The necropsy showed absence of the right lobe of the cerebellum and a varix close to the accessorius nuclei, with beginning hæmorrhagic infarction. (2) Without recognisable lesions. Typical attacks of Stokes-Adams disease of maximum severity are on record in which the most careful examination has failed to find any changes in the heart, the arteries, or the nervous system. Dr. Edes's first case, that of a woman, aged 50 years, with a very neurotic history, hadfor seven or eight months recurring seizures, with loss of consciousness, &c., in which the pulse fell to 20 to the minute. She died in an attack; the necropsy made by Dr. Councilman was negative.

3. *Arterio-sclerotic group.*—In this group there are obvious changes in the circulatory system. So large is the majority of the cases in this division that Huchard's dictum is justified, "L'étiologie est cette de la sénilité artérielle.' My experience is confined almost entirely to this form. The histories, which I have condensed as much as possible, give a fair picture of the phases and forms of this remarkable condition.

CLINICAL HISTORIES.

All my cases, 12 in number, were in males; three of the patients were above 76 years of age and six were between 50 and 70 years of age. The youngest was 35 years old, the case following a streptococcus infection. Excluding this patient, my cases fall into three categories—a group of five cases with very severe and acute symptoms; a senile goup of four cases; and a milder form in younger men, two cases.

I.—SEVERE CASES.

The patients in the severe cases are men as a rule in the pre-senile stage and they present well-marked cardio-vascular lesions. In Case 2 there was extensive calcification of the coronary arteries and of the arch of the aorta, with

[4] Transactions of the Association of American Physicians, vol. iv.
[5] Philadelphia Medical Journal, 1901, and Transactions of the Association of American Physicians, 1901.
[6] Ogle THE LANCET, Jan. 30th, 1897, p. 296.
[7] Deutsche Medicinische Wochenschrift 1896.

hypertrophy of the heart and chronic myocarditis. Some of the attacks are very much like the syncope anginosa of the older writers. In Cases 3 and 4 the symptoms were those of myocardial disease associated with dilatation of the heart. Case 5, the most characteristic instance of the group, presented an extraordinary series of vascular and cerebral manifestations.

CASE 2. *Unusual sensations in the chest; constantly recurring vertigo with slow pulse; subsequent attacks with complete loss of consciousness; pulse-rate usually as low as 28, sometimes sinking to 20; arterio-sclerosis; duration of the symptoms for about six years; sudden death; calcification of the coronary arteries and the root of the aorta, with hypertrophy of the left ventricle.*—The case is given in full in my lectures on angina pectoris (1895). Of the subsequent history Dr. Houston of Troy, New York, writes (Jan. 5th, 1897): "Mr. V.'s pulse continues at about 30 to the minute with an occasional intermittence. He has now very marked vertigo, perhaps 25 attacks each day, each time nearly but not quite losing consciousness. He has no headache, sleeps well, and says he is very comfortable except for these sinking 'spells' and weakness." Jan. 25th, 1898: "Mr. V. has had some very bad attacks of late. In the present month he has twice fallen to the sidewalk while conversing with friends, loss of consciousness being absolute." March 13th, 1898: "The attacks of vertigo with unconsciousness have occurred at shorter intervals through January and February. After a period of complete rest he improved somewhat; pulse-rate 27 to the minute." On March 2nd, 1899, the patient died suddenly. On the 8th Dr. Houston wrote: "The day before Mr. V. died he had an attack of syncope on the street. In the evening he felt unusually well and played checkers with his son. He retired early and slept well. In the morning he got up and had his tub and went back to bed in order to have his breakfast. Just as the tray came he fell back suddenly and in a few moments died." The necropsy showed extensive calcification of the coronary arteries and the root of the aorta, with hypertrophy of the left ventricle. Dr. Houston states that at times his pulse fell to as low as 20 to the minute. The usual rate was 28.

This very remarkable case illustrates the long duration of the affection, fully six years, the syncopal type, without apoplectiform symptoms or convulsions, and the coronary artery changes.

CASE 3. *Attack of faintness, with a slow pulse; great cardiac weakness with pallor and syncopal attack; gradual recovery.*—The patient, a man, aged 57 years, was referred to me by Dr. J. Newton on April 4th, 1900. The patient had been a hard-working man who had lived carefully and indulged in no excesses. He had not used tobacco or alcohol. He had typhoid fever 20 years previously. His mother died from heart trouble at the age of 63 years. Two brothers had died from heart trouble at the ages of 30 and 40 years respectively. Two weeks before the onset of the present illness he had had a great deal of extra work and worry. On Nov. 14th, 1899, while walking to his place of business he felt faint, continued to walk, though slowly, and had no pain. He went to his office, walked upstairs, chatted with his foreman, then started home quietly. He felt very faint and excessively weak and was breathing very slowly. When he got home he was very pale, the left foot was particularly cold, and the left hand was very pale. He had no pain. His pulse became exceedingly slow—down to 38 and even lower. From this time on he was in bed for two months and had constantly recurring attacks of great pallor and coldness with cardiac weakness and slow pulse. During this time he had two fainting attacks in which he got very pale and cold. The heart's action gradually strengthened and he was able to get up and to move about the room. He had since then gradually improved but had had to be very careful and to go very slowly. When last seen he complained of a remarkable tickling and feeling of numbness in the left hand and the left foot, with a sensation of pulsation in the fingers. He was a very healthy-looking man, of good colour, with a good complexion. The eyes were clear; there was slight arcus in the left. The pulse was 72 and regular; the tension was plus; the artery was distinctly sclerotic. The apex beat was not visible; there was no increase in the area of transverse cardiac dulness. At the apex both sounds were clear, the first being loud and ringing. The aortic second sound was not accentuated. Altogether he seemed remarkably well and it was difficult to believe that he had had such a serious cardiac attack only a few months before.

CASE 4. *Attacks of transient vertigo with permanent slow pulse; syncopal attacks; cardiac dilatation with pulmonary œdema and enlargement of the liver; gradual improvement, persistence of the bradycardia; sudden death.*—The patient was a robust, healthy-looking man, aged 61 years, of good habits and good family history. Except mental overwork and the stress and strain associated there were none of the factors leading to arterio-sclerosis. When about 35 years of age he had severe burns of both hands and the face which had been long in healing. Many members of his family had a pulse-rate of about 60. In the spring of 1899 I saw him during convalescence from an attack of bronchitis and was then impressed with the feebleness of the heart sounds; the pulse was firm and full, not specially slow. In the autumn of the same year he had an attack of syncope and it was then noticed that the pulse was slow. He had had transient attacks of vertigo. Early in the spring of 1900 he had another very severe attack of syncope in Philadelphia with prolonged collapse and great feebleness of the heart. He recovered rapidly, but the pulse remained at about 45. In the summer he became very neurasthenic and was unable to stand slight noises and had a distressing feeling of tension in the head. In July, August, and September there were much flatulency and gastro-intestinal disturbance and on exertion a tendency to fainting. There were râles at the bases of the lungs, slight cough, swelling of the liver, and signs of cardiac insufficiency. It was impossible to feel the apex beat, the area of transverse dulness was increased, the sounds were muffled, and there was a soft apex bruit. He was under the care of Dr. Holford Walker of Toronto who had the advantage of the counsel of Dr. McPheadan and of Dr. Musser of Philadelphia. I also saw the patient early in August. Gradually the heart grew stronger but without any change in the pulse-rate, which was constantly between 30 and 40. On no occasion did I find a "coupled rhythm." From October, 1900, to January, 1902, he improved steadily and was able to take long walks and to get back much of his accustomed vigour. On the morning of Feb. 5th, while getting out of bed, he complained of not feeling very well, was nauseated, and fell back in the bed and died in a few moments.

CASE 5. *Fainting "spells" with slow pulse; slight arterio-sclerosis; epileptiform attacks; remarkable discrepancy between the heart and pulse rate; death in an attack.*—A man, aged 56 years, a farmer, was admitted to hospital on May 15th, 1900. He complained of dyspepsia and a nervous affection. There was nothing of any moment in his family history. When eight years old he had typhoid fever; as a youth he had malaria and at the age of 21 years he had measles. Twenty-five years before he had an attack of gravel. He had never had any venereal disease. His habits had been good. He used neither alcohol nor tobacco. He had been a large eater. Until five years previously he was a shoemaker. In August, 1899, he had two fainting "spells" which lasted for about 10 or 15 minutes. In November he began to notice that after exertion there was a feeling of suffocation. He had had to be extremely careful in his diet; if he took too much food or very indigestible articles he would feel sick at the stomach or everything would grow dim and misty before his eyes. He had had in all four severe fainting attacks, in each of which he was unconscious for at least ten minutes. He had had many of the mild, slight attacks. The patient was a fairly well-nourished, well-built man; the mucous membranes were a little anæmic. The tongue was coated. There were no tophi. Dorsal decubitus; there were no cyanosis and no arcus; the pupils were equal and normal. The pulse was of good volume, of about normal tension, regular, and 28 to the minute; the vessel wall was distinctly felt but was not greatly sclerosed. He had a moderate grade of funnel breast; the expansion of the chest was good; the lungs were clear throughout. The point of the maximum impulse of the heart was seen and felt in the fourth interspace, 10 centimetres from the middle line and one centimetre inside the nipple line; there was no thrill. Absolute dulness began on the fourth rib and extended from the right sternal border to the point of maximum impulse in the fourth interspace. There was a loud well-marked first sound, with which there was a soft systolic bruit, traceable as far out as the anterior axillary line. The second sound was well heard and clear. Between the clearly heard heart beats at times there was a faint systolic sound heard after the first and separated from the next by a long interval. This abortive character of the alternate heart beat, "coupled rhythm," was noted on

admission. At the aortic area the heart sounds were enfeebled and there was a soft systolic murmur. The second sound was not accentuated. The abdomen looked natural and there was no tenderness on palpation. The border of the liver was not palpable; the spleen was not enlarged. There was no œdema of the legs or feet.

The case is of sufficient interest to give in some detail. On May 16th the patient felt dizzy and at 4 P.M. he suddenly became very pale and fainted, remaining unconscious for ten minutes. The pulse fell to 15 beats per minute. Between 4 and 8 P.M. he had four such attacks, the pulse varying from 15 to 20 beats per minute. There was sweating with each attack. After the last attack of syncope he vomited. The night nurse reported that on several occasions the pulse was as low as 15 beats. He slept comfortably and in the morning seemed all right. On the 17th, at the visit at 9 A.M., I found the patient with a pulse-rate of 18. Both sounds had a very normal character at the apex. The systolic bruit had the greatest intensity over the body of the heart. The percussion note was clear over the manubrium. There was no tracheal tugging. On the 19th, while making the morning visit, I saw the patient in two attacks, each of which lasted about half a minute. The eyes were turned to the left and became fixed; the muscles of the face twitched and the hands twitched slightly. It resembled a slight epileptic attack. The pulse at the wrist was 12, and the cardiac impulses corresponding to them were strong and easily seen. In the jugular veins there were fluttering systolic impulses, quite well defined, but difficult to count, about 120 to the minute. On careful inspection of the cardiac area there were seen in the fourth and fifth interspaces small, regular, systolic impulses, exactly 100 to the minute. Corresponding to these there could be heard faint systolic sounds at the same rate. During the night the patient had a severe attack of vomiting and had frequent syncopal attacks. Dr. Futcher noted that while the pulse was beating at 12 to the minute auscultation over the heart gave 143 feeble beats to the minute, each eleventh or twelfth beat being forcible, with a loud first sound, and corresponding to the one recorded in the radials. On the 20th the patient had some hiccough and at midnight there was typical Cheyne-Stokes breathing. The heart could be seen beating at 95 to the minute but the pulse was only 19 at the wrist. On the 23rd the patient had been better for the past two or three days. The pulse had been at about 20 at the wrist and 84 at the heart. On the 26th the patient had a persistent pallor, the pupils were small and equal, the pulse was full, 19 to the minute at the wrist and 74 at the heart. On the 29th at the time of the visit the pulse was 28 at the wrist. The small beats were not visible at the point of maximum cardiac impulse, where the impulses corresponded with the pulse at the wrist; but on auscultation, between each of the forcible impulses, which shook the whole front of the chest, there was heard a little, soft, faint, systolic sound, which was not expressed at the apex as a visible or palpable impulse and was not felt at the wrist. The pulsations in the jugular vein were very evident but it could not be determined if they corresponded with the total number of ventricular beats. At 9.30 P.M. the patient had an attack of unconsciousness, lasting for several minutes, followed by dyspnœa and afterwards Cheyne-Stokes breathing. On the 30th, at 10 A.M., while the nurse was giving him his bed bath, he suddenly vomited and immediately afterwards became perfectly rigid and unconscious and cyanosed. Before chloroform could be administered the muscles relaxed, the patient gave a few gasps at rather long intervals, and died without regaining consciousness. During the attack the pulse was not perceptible at the wrist. Artificial respiration was performed without any result. There was a slight trace of albumin in the urine and there were a few hyaline and granular casts. There was no necropsy.

Another case of the same intensity may be referred to. On May 13th, 1902, I saw in the afternoon at the Union Protestant Infirmary, with Dr. Hamburger, a man, aged 45 years, who illustrated all the symptoms of this severe type of the Stokes-Adams disease. He was a stout, healthy-looking man. He shook hands with me as I went in and then gradually closed his eyes in an apathetic way. The face and general surface of the skin were a little suffused. The pulse was 20 to the minute; there was slight sclerosis of the artery; no special increase in tension was present. There were no intermediate beats of the radial pulse. He was rather stout and the apex beat was not easily visible, but the slow heart beats were palpable. Intermediate small beats could neither be seen nor felt. There was considerable increase in the transverse area of cardiac flatness. In the neck the visible pulsation of the carotids was very plain, 20 to the minute, and there were in the suprasternal notch and just along the sterno-cleido muscles on either side two or three tremulous venous impulses not so localised as in Cases 5 and 8. On auscultation at the apex both the first and second sounds were well heard. With the first there was a rather rough grating murmur. There were no intermediate sounds audible. Above the fourth costal cartilage, particularly at the mid-sternum, Dr. Hamburger had noted between the sounds one or two distant soft sounds. These I, too, could catch with distinctness. Just after we had finished the examination the patient had in succession two epileptiform paroxysms. The onset could be told at once as the beat of the heart stopped and could not be felt at the wrist or heard at the heart for from 15 to 20 and even as long as 35 seconds. The convulsion was a general tremulousness, the face became slightly cyanotic, the breath was held, the eyes twitched and rolled up, and the muscles of the face twitched. The paroxysms lasted for a few seconds only. He came out of them very quickly and the face flushed with great rapidity and he seemed a little dazed. He had as many as 150 of such attacks in the 24 hours. The patient recovered from the serious condition and returned to his home in Washington. A few months later he died during an attack.

CASE 6. *Typical pseudo-apoplectic attacks as described by Stokes; slow pulse; in some attacks convulsions; duration more than ten years.*—While attending the meeting of the British Medical Association at Montreal in 1897 I saw at a club an old friend, a man aged about 60 years, who consulted me casually about distressing attacks of transient vertigo and others of a more severe nature in which he lost consciousness completely. During the attacks he said that his pulse sank to 20 or even lower. He said to me, "It is not at all improbable that I may have an attack at some time while you are in the club and I will tell the head waiter to notify you." On the following day, while I was at dinner, I was called hurriedly to the secretary's office and there I found my friend in an attack. He had fallen unconscious, was breathing very heavily, almost stertorously, and had a very flushed face. I thought at once that it was really an apoplectic stroke. The pulse was very slow and very full, about 20 to the minute. The arteries were very sclerotic. The heart's action was very forcible and I could not hear with the unaided ear any intermediate beats or a murmur. So alarming did I think his condition that I said to his servant that I thought it might be well to send for his physician and to have him bled, to which he replied that this was an ordinary attack, that he had seen him in many quite as severe, and that he rallied in the course of from 15 or 30 minutes. I returned in the course of half an hour and found him up, feeling a little dazed and heavy in the head but quite himself. In some of the attacks he stated that he had convulsions. On March 3rd of the following year he wrote to me that he had been very much better. He stated that he had had the fainting attacks and the slow pulse for many years. Dr. James Stewart, under whose care he was, told me that his attacks were often of the character of *petit mal* and were sometimes followed by motor aphasia, mainly of nouns. The lowest pulse-rate he had ever found was 21, but it had been as low as 18. He died during an attack. The trouble had lasted for fully ten years. He had painful neuromata along the extensor surface of the left arm and two in the left shoulder. There was a curious relationship between the pain in these and the pulse-rate, the slower the pulse the greater was the pain.

II.—SENILE CASES.

Not infrequently old men have bradycardia with attacks of vertigo, or of fainting, or even of prolonged unconsciousness. There may be in addition cardiac dyspnœa and Cheyne Stokes breathing. The cases are more common, I think, than any description in the literature would lead one to suppose, particularly the incomplete forms, *forme fruste*, with vertigo.

CASE 7. *Slow pulse; syncopal attacks; arthritis; possibly gout; pericarditis; death.*—On Jan. 16th, 1899, I saw, with Dr. Hemmeter, a man, aged 72 years. The patient, a very healthy man, had lived an active life, had been a hearty eater, and had been "fond of a glass of beer." He had had several attacks of arthritis, once or twice in his big toe. During the past three years it had been noticed that his

pulse was very slow, down to between 50 and 60, and he had had three syncopal attacks with pronounced bradycardia. In one of these he had fallen when at stool and was unconscious for some time, with a pulse-rate of 40. When I saw him he had slight arthritis, a temperature of 102°F., and a pulse of 56, full in volume. The vessel wall was moderately sclerosed. The heart sounds were clear. On the 18th I saw him again. There was then a very loud to-and-fro pericardial friction murmur. His temperature had kept up, the joint symptoms were better, but he evidently was not so well. The amount of urine was reduced and there were much albumin and numerous tube casts. He became very much worse during the next three days, became unconscious, Cheyne-Stokes breathing developed, and he died on the morning of the 23rd. There was no post-mortem examination.

CASE 8. *Attacks of vertigo and sudden weakness; slow pulse; arterio-sclerosis; sudden death.*—The patient, a medical man, aged 70 years, was seen in March, 1900. He had always been a strong, robust man; he had never been ill in his life and was unusually well and strong. He had been a devoted cigarette smoker for 40 years. He was not a heavy eater; he had drunk during and after the War of Secession, but had been a temperate man for 26 years. He had been gouty at times. He was a fairly hard worker. On Feb. 10th he had a "giddy spell" and felt a sudden weakness as though he wanted to lie down but did not faint. The attack lasted for an hour or two. He then noticed that his pulse was slow, only 40 to the minute. It did not reach the normal for a couple of days. His usual pulse had been from 72 to 76. He did not feel well for two days. Ten days later he had a second attack, felt giddy, and noticed that his pulse was again low and that it had remained low, once being as low as 38, occasionally rising to 42 and 44. When quiet he was comfortable. He staggered a little when he first got up. He had no pain about the heart. The pulse in the sitting posture after rest and quiet was just 40. There was moderate sclerosis of the arteries. The apex beat was diffusely visible just below the nipple. The beats at the apex were 40; there were no abortive heart systoles. There was an apex systolic bruit, not obliterating the first sound, and very faint at the aortic cartilage. No flatness was manifest over the manubrium. In the right side of the neck there was a pulse in the jugular vein which occurred in groups of three and which was twice as rapid as the pulse in the temporals. It looked just like a wavy venous impulse and was 80 to the minute. I saw this patient again twice. He improved for a time after the use of tobacco and the pulse-rate rose to 55. He had a return of the "sinking" attacks with bradycardia and I heard of his death during an attack in April, 1903.

It is remarkable for how long bradycardia and occasional fainting attacks may persist. In the following case the patient claimed that he had had a slow pulse for 30 years and that he had occasional fainting attacks.

CASE 9. *Stokes-Adams disease; slow pulse; syncope with anginal attack; cardiac dyspnœa; sudden death.*—The patient, a man, aged 74 years, was seen with Dr. McDowell, complaining of debility, with attacks of shortness of breath and palpitation. He was a thin, spare man and had a good colour. He had had a very healthy life without serious illnesses. Thirty years previously his son, at the time aged 12 years, had a fall and after feeling his pulse he felt his own and found that it was only 50 per minute. He consulted a physician who told him that his condition was serious and that he would not live long. He thought that he had had a slow pulse ever since until lately. For many years he had been subject to fainting attacks on extra exertion or on great mental emotion, but they had never been serious. Five years before, on the occasion of the fiftieth anniversary of his ordination, he preached and at the conclusion of his sermon he was seized with a pain of terrible severity in the region of the heart and down both arms. In the arms the pain was as intense and severe as the sharpest toothache. He was very faint and lost consciousness. He broke out into a profuse perspiration and the attack ended with severe diarrhœa. His pulse was very slow and three days after the attack the medical attendant said that his pulse was 38. Since that date he had not had any fainting attacks. He had felt on many occasions palpitation of the heart and irregularity and he had known that his pulse had been below 50. At night he would sometimes be aroused if he lay on the left side by a sudden sharp pain, as if something had grasped the heart. Within the past year he had had certain additional features. His pulse had become more rapid, having risen to above 70. He had had attacks of cardiac dyspnœa at night and was short of breath on exertion. That summer at the seaside he preached, took a great deal of interest in church matters, and seemed to have overtaxed his strength. He had become much more feeble. The patient's colour was good; there was no swelling of the feet; no arcus was present. The radials were stiff, with no calcification. The apex beat was in and just outside the nipple line. There was a soft systolic murmur and along the left sternal border a soft aortic diastolic which was heard only when the breath was held. Both sounds were rather feeble at the base. There was no tenderness over the course of the aorta. I saw this patient again with Dr. McDowell on Oct. 13th. He had been steadily failing, had much less ability to get about, and much shortness of breath, particularly at night. For the past two or three days he had been worse. On the previous evening he had an unusually severe attack of cardiac asthma and one attack was associated with a good deal of pain. I saw him at 5.30 in the afternoon. He was resting quietly, breathing easily. His pulse was 90 and of very good volume; there was no special tension. There was a soft apex systolic murmur, as at the previous examination. There was no gallop rhythm. His cardio-vascular condition seemed to be extremely good. He was rather dull, did not care to be disturbed, and complained of feelings of great prostration and weakness. At 12.30 that night he died suddenly without awaking.

CASE 10. *Attacks of dyspnœa; slow pulse; two attacks of loss of consciousness; arterio-sclerosis; hypertrophy of the left ventricle.*—The patient, a man, aged 65 years, was seen on Dec. 14th, 1896, complaining of dyspnœa. On entering the room the patient was so short of breath that he had to wait several minutes before he could say what was the matter. With the exception of dyspepsia, which he had had at intervals for 30 years, he had been a very healthy man. He had not used alcohol or tobacco and had not had syphilis. He had diphtheria 10 or 12 years ago; he had not had rheumatic fever or gout. He had worked hard and recently had had business troubles and cares. For the past two or three months he had been getting short of breath, particularly on exertion. After proceeding thus far in the history I felt his pulse and was surprised to find it very slow, 40 to the minute. I then asked him about attacks of unconsciousness, of which he had made no mention, and got a history of two very remarkable seizures. In June, 1895, in Washington, after a couple of days of anxious business, he returned home one Thursday and just after dinner had a fainting attack. He did not know how long it lasted, but his family was very much alarmed and sent for a medical man; he was "off his head" for some time after the attack and talked foolishly. He was not able to leave the house for ten days. He had a second attack in June of this year. He was in the Custom House attending to some business and fell in a faint. He was unconscious for more than 20 minutes and was a good deal dazed after coming to. These were the only two attacks he had had. The patient was a tall man, with iron-grey hair and beard; he talked very deliberately and the expression was rather heavy and dull. The pulse when first counted was 40 per minute, full, slow, incompressible, anastomotic; the vessel wall was considerably thickened. The apex beat was in the fifth interspace, just below and a little outside the nipple line, forcible and punctuate. There was no thrill. On palpation in the second right interspace and second right costal cartilage there was to be felt an unusually loud diastolic snap. The limit of cardiac flatness was on the fourth rib at the right sternal margin and just at the apex beat. At the apex both sounds were heard, with the first a soft systolic murmur. At the second right interspace there were a soft systolic murmur and a second sound of most unusual and remarkable intensity, without any amphoric quality, sometimes single, sometimes distinctly reduplicated. I saw the patient again on June 27th, 1897. He had been much better; the slow pulse was not permanent but at times it was as low as 40.

III.—CASES OF SLOW PULSE WITH OCCASIONAL SYNCOPAL ATTACKS IN YOUNGER, HEALTHY MEN.

CASE 11. *Attacks of fainting for five years; slow pulse; arterio-sclerosis; good general health; appendicitis; operation; recovery.*—The patient, a man, aged 40 years, was seen on May 20th, 1901, complaining of attacks in which he fell and lost consciousness. The patient had been a healthy man, very active and vigorous. For many years he had had at times rheumatic pains. After an attack of pneumonia, nearly

20 years previously, it was noticed that he had a slow pulse but he did not remember the rate. Five years previously he had his first attack of fainting. He felt nauseated and faint but recovered very rapidly. A few days later he had a second attack. During that summer he had a good many and he had had them at intervals ever since. He felt in them as though everything stopped and then he would fall. There were no movements in the attacks. He was more apt to have them when he was tired or after any special excitement. In the attacks he either fainted away completely or could with difficulty keep himself from fainting by rubbing his wrists violently. The attacks rarely lasted more than a few minutes. They were accompanied with a very slow pulse, usually below 40. His apex beat was in the normal position. The heart was not enlarged. The sounds were clear; the aortic second sound was a little accentuated. The radials were distinctly sclerotic. The patient was admitted to the hospital, where he had an attack of appendicitis, of which he had had several previously, and he was transferred to the surgical side for operation. Very many observations were made upon his pulse and heart. The rate was usually about 50. The day before operation it was 40; just after the operation it rose to 90. There was no "coupled rhythm." He remained in hospital until June 3rd, during which time the range of the pulse was from 40 to 65. There was no hemi-systole. On the occasion of his visit to me I made him go out and walk briskly and when he came in his pulse rose to 110. He was a very healthy, active man and said that he had got accustomed to the fainting attacks.

CASE 12. *Syphilis at 23 years of age; for six months recurring attacks of vertigo; two attacks of great severity; permanent slow pulse of 28.*—A robust, healthy-looking man, aged 45 years, of good habits, had consulted me on March 15th, 1902, for what he called fainting attacks. They had begun six months before without any cause and were of two varieties. The first was a slight transient giddiness, in which he felt for a moment or two as though he was about to fall, but quickly gained control without struggling or swaying; while he was undressing he flushed a moment and said, "There, that was a slight one." He had many of these, often three or four in the day, and any excitement was apt to induce them. Twice he had had more serious attacks in which he had become faint and had had to hold on to something to keep from falling. He did not lose consciousness but felt a sensation of "utter goneness," as he expressed it, and then broke out into a profuse sweat. There were a sensation, too, of stuffiness in the throat and a wheezing in the tubes. Shortly after his attack of faintness the medical attendant noticed that his pulse was very slow and it had ranged ever since from 28 to 36. He had no abnormal sensations about the heart itself. He felt well and was vigorous but he had become much alarmed since the onset of the severer attacks. He had been a vigorous, muscular man; he had used much tobacco and alcohol in moderation. He had had syphilis but was thoroughly treated for two years. I dictated the following note:—"Healthy-looking man of good colour. Pulse 28, full; radials easily felt. Visible pulsation in cardials and a fluttering venous impulse difficult to count but about double the rate in the carotid. Apex beat not visible, not palpable; no increase in the area of transverse cardiac flatness. Both sounds audible at apex; no intervening beat to be heard at apex or base. Aortic second sound accentuated. After exertion the pulse-rate rose to 40. Examination of the other organs was negative."

I have permission to quote the following remarkable description of his own case by an army officer who has consulted me by letter on several occasions and who has been under the care of Dr. R. H. Babcock and Dr. E. F. Wells of Chicago:—

January 5th, 1903.

DEAR SIR,—While in Germany in the summer and fall of 1900, taking a course of the Schott bath treatment for an affection of the heart, I took advantage of the opportunity thus afforded to consult several German professors regarding my malady. Among these men was Professor Dr. Rosenbach of Berlin, an author of a work on "Diseases of the Circulatory System." The professor, although he spent an hour or more in his examination of me, was very non-committal in his diagnosis as well as prognosis, but stated that he hoped the condition then found would readjust itself and that improvement of my health would result, in which case I was to inform him of the fact, as he would distinctly remember my very unusual case. He stated further that upon my return to this country I should make it a point to consult you. This I was unable to do owing to the illness of the person accompanying me to Europe upon our landing in New York. Since my return to the West I have been continuously under the care of physicians, and until July last under the observation and care of Dr. Robert H. Babcock of Chicago. It was he who in April of 1902 first informed me that mine was a case of Stokes-Adams disease, although the original examination of me by Dr. Babcock had been made as early as October, 1899. Dr. Babcock informed me that he was inclined to make that diagnosis after mature consideration of an article by Dr. August Hoffmann appearing in the *Zeitschrift für Klinische Medicin*, vol. xli., 1900. Later the article on the Stokes-Adams Disease by Professor A. Jaquet in *Deutsches Archiv für Klinische Medicin*, Band ii., confirmed him in his opinion.

Personally I have made a thorough study of my case, so far as a layman can, and although I have had most divergent views and diagnoses given me by the various physicians who have examined and treated me I am convinced that mine is a case of Stokes-Adams disease. If there are any methods of treatment or medication that you may have used, with even moderate success, in your practice I should very much like to try them; in that case I would be able to give you a complete medical history of my case which might enable you to treat me at a distance. I would only say at this point that, so far as I know, no specific cause can be pointed out as having produced the condition which now exists. I am now 29 years of age. At 18 I was supposed to be entirely well, for I was examined at that time for life insurance and reported entirely sound by the examining physician, who yet maintains that that report was correct, and the policy was issued. At 20 I was first informed by a physician whom I consulted as to whether or not I was physically sound, contemplating as I did entering the Military Academy at West Point, that I had heart disease. I was nevertheless admitted to the Military Academy and graduated and commissioned an officer in the army four years later. One year after entrance "aortic stenosis" was diagnosed and subsequently at each annual physical examination. At these examinations such additional notes as "heart slow and strong" were also reported. When I was graduated (or at any rate not more than six months afterwards) my radial pulse was 38, regular, and I was apparently well. It is now, and has been since May, 1899, 26 per minute. Frequently stops entirely, causing me great distress and lack of consciousness. At times there is delirium cordis. Occasionally the pulse goes up to from 40 to 70 or 75 and has been at practically a normal rate for a period of three weeks on one occasion. I cannot say whether the heart took up this higher rhythm of its own accord or not since I have been using medicine almost continuously.

I am now compelled to use morphine in moderately large quantities, it being the only thing that seems to steady my heart; eserine, too, has been tried; this just before and during the time my pulse was at a normal rate for three weeks. The use of oxygen, too, seemed to cause my pulse to become normal but would not sustain it for more than one week. The sphygmographic tracing which I send is a fair indication of the usual heart activity. My skin is almost bloodless and I suffer from the cold very severely. Since February, 1902, I have been confined to my bed almost continuously and since July absolutely. This has reduced my weight, which ordinarily is 140 pounds, to about 115 pounds. But I have begun to gain since I resumed a general diet about four weeks ago. There is a marked systolic murmur over the aortic and mitral areas, both of which murmurs become very much less marked when heart action is normal. Careful auscultation reveals usually two small heart contractions of which the latter produces the radial pulse. The former (imperfect) contraction does not produce a pulse-wave either in carotids or in the radials. None of the ordinary secondary symptoms of valvular disease of the heart, such as dyspnœa, dropsy, cyanosis, &c., are present in my case.

Yours &c.,

DIAGNOSIS.

The severe form (Cases 2 to 6) presents such a clear-cut picture that there is no question as to the nature of the trouble. The senile form is also very well marked. The post-febrile variety may be very severe but is as a rule more hopeful and recovery, as in Schuster's case, may follow after weeks of recurring attacks. The toxic forms of bradycardia are sometimes associated with vertigo but rarely with syncope or epilepsy. The tobacco bradycardia may sometimes cause alarm. I was consulted on Jan. 7th, 1896, by a man, aged 48 years, who said that he had had heart disease for three years. He had smoked and chewed from boyhood. He complained of irregular action of the heart and a dull aching sensation in the chest. He then had attacks in which the pulse fell to 45 and 48 and which caused him great alarm. He had transient vertigo but never syncope. There were no signs of heart disease. I urged him to stop using tobacco. Within three months the pulse-rate was above 70. I have seen him on several occasions since and he has remained quite well.

A difficulty may arise in the diagnosis of the neurotic cases in women or in young men. Dr. Edes's first case illustrates the intensity of this form. Aggravated neurasthenia may be associated with bradycardia and vertigo of which the following cases may be given in illustration.

CASE 13.—A man, aged 44 years, was admitted to the Johns Hopkins Hospital on Oct. 29th, 1899, complaining of pain in the epigastrium, headache, and of swaying of the body while walking. He had used tobacco to excess, both smoking and chewing. He used whisky in moderation. He had not had syphilis but had had gonorrhœa twice. He had led a very active athletic life. Six months before, after severe exertion and exposure, he had "queer sensations" rising upwards from the thighs which made the act of breathing uncomfortable. He worried over this and had in a short time so much difficulty in getting his breath that he thought he had heart disease and was going to die. He stopped work for a few days but on resuming he had a similar attack and complained of a peculiar swaying of the body which he could

not control. The patient worked for two months but the swaying and pains in the crown of the head and in the epigastrium compelled him to give up. He was very nervous and complained of flushing, cold feet, and insomnia. He had lived a life of continued "high tension." He was a stout well-built man; the lips and the mucous membranes were of good colour; the tongue was slightly furred. The pupils were equal but not contracted; they reacted well to light and to accommodation. Well-marked dermatographia was present. There was some swaying on standing with the eyes closed and feet together. The pulse was of good volume and normal tension, regular in force and rhythm, but slow, being only 48 to the minute. The point of maximum cardiac impulse was neither visible nor palpable. The sounds were best heard in the fourth interspace nine and a half centimetres from the midsternal line; there was no thrill. The sounds were rather enfeebled at the apex and were clear and of normal relative intensity; they were clear at the base; the aortic second sound was slightly accentuated. There were no abortive beats. According to the patient's wife he had since childhood had an aversion to water, the drinking of which would cause him to have a "smothering" feeling at night. At the onset of the present illness the patient went to bed feeling perfectly well; he woke up in the night with a feeling of being smothered, so he got up and went outside. He was convinced that he was dying and after a time could not walk and had to crawl home. He was put to bed; he went to work as usual on the next morning. One week later he had a similar attack. His wife said that since the onset of the attacks he would often get up at night wringing his hands and in great fear of death, but was usually easily quieted. The patient improved very much after a short stay in the hospital, but the pulse was still slow, from 48 to 50 to the minute.

The following is a still more remarkable instance of a very slow pulse with nervous attacks.

CASE 14.—The patient, a man, aged 26 years, was seen on Oct. 4th, 1901, with Dr. Harry Thomas, complaining of attacks of nervous weakness. The family history was excellent. He had good health as a young man. In January, 1895, he fell about 20 feet, hit his back, and was severely hurt in the muscles of the back; no paralysis followed. He was in bed for three months on account of the pain in the back. This was his first year at college. He got well, except that on cold damp days his back would hurt him. His present trouble came on before the fall, in March, 1894. He had been feeling well and went to bed. In the morning he found that he was "giddy-headed" and everything in the room seemed to be turning round; he felt a little sick at the stomach. When he tried to get up he was very unsteady and if he moved suddenly he would fall; he had to support himself by chairs, &c. There were no ringing in the ears and no vomiting. He became nervous and went back to bed. The pulse sank to 42; there was no fever. The bowels were in good condition; he had a good appetite. He was in bed for three or four weeks. Every time he tried to stand he found that he was so weak that he had to go back to bed. If he did get up his heart would go from 80 to 100. He could not read on account of the headache that it caused. When he did get about he was weak. He improved slowly and in about six weeks was as usual. At the time of the first attack he was working on a farm and had had nothing to disturb him. The second attack was in about a year after his fall. Since then these attacks had recurred from eight to 12 months apart. They had all been of the same character, except that some were longer and some shorter. The shortest one was about three and a half weeks. This was in 1898. The last attack began on the afternoon of August 5th. He was taken with giddiness and vomiting and had to be taken home in a carriage and practically carried upstairs and put to bed. It was not weakness at first that kept him from walking but giddiness. The temperature was normal and remained so. On the next afternoon the pulse was 48. He was in bed for eight days and then went to his home 28 miles away with assistance. He had stayed more or less in bed every day since. The giddiness had lasted much longer in this attack than usual. He tried to go back to work a week before but was not strong enough. In going about the pulse increased to 93. The pulse when he was well was about 74 when he was going about. He was a healthy, robust-looking fellow. The pupils were active. The radials were soft; there was no sclerosis. The pulse was 80. The chest was rather long and narrow. The apex beat was in the fifth interspace, well inside the nipple line. There was no increase in the area of cardiac flatness. The aorta was not palpable in the sternal notch. The sounds at the apex and base were loud and clear; the aortic second sound was a little accentuated. In the carotids and the subclavians there was visible, possibly neurotic, throbbing. Marked and quick vaso-motor reaction was present.

These are certainly very remarkable attacks. They rather suggest a form of migraine and yet the ears were normal and the patient had no ringing in the ears with the attacks. He gave one the impression of being an excessively nervous man. On a course of hydrotherapy he had improved very much. Dehio suggests the use of atropia to determine in a given case whether the bradycardia is due to changes in the heart itself or in the nervous centres. In normal persons small doses paralyse the peripheral ends of the vagi and the action of the heart is hastened. In old people, in chronic myocarditis, and in one case of Stokes-Adams disease Dehio states that this effect did not follow. I do not know if this observation has been confirmed.

CARDIO-VASCULAR FEATURES.

All of the patients except Case 1 with an acute post-febrile attack presented arterio-sclerosis; in Cases 5, 11, and 12 it was of moderate grade. In no case was the heart greatly enlarged. In Cases 2, 4, 5, and 10 there was a soft mitral systolic murmur; in Case 9 an aortic diastolic murmur was present. In Cases 4 and 5 the sounds were weak and muffled. In the only necropsy of the series (Case 2) the arteries were found to be sclerotic, the root of the aorta and the coronary arteries were calcified, and the left ventricle was hypertrophied. The condition is not associated with the ordinary forms of valvular lesions, as in a majority of the cases the valves are normal, the heart is not enlarged, and the sounds are clear. In Dr. Edes's series collected from the literature in 31 of the 35 cases in which a necropsy was held there was a definite statement as to the heart and arteries and in 26 there were sclerotic and myocardial changes. Certain special features may be considered.

True bradycardia.—One of the first lessons a student has to learn in the wards is that infrequent slow pulse and bradycardia are not the same and that with an infrequent pulse there may be a normal or an increased number of heart beats. In lesions of the mitral valve, in chronic myocarditis, and as a result of the action of digitalis, the radial pulse may be 50 or even 40 and the heart beats exactly double, the intervening small beat (often visible at the apex in thin-chested persons and audible as a faint systolic sound) not reaching the finger at the wrist. True bradycardia with heart beats and pulse beats of equal number occurred in most of the cases, only in Cases 5, 8, and 12 did it alternate with false bradycardia. In eight cases the bradycardia was a permanent condition; in one case the beats fell to 12 per minute; in Case 9 the slow pulse had been observed for 30 years, in Case 2 for six years, and in Case 6 for at least ten years. In Cases 1 and 2 the slow pulse was not permanent but only occurred during the attacks. In Dr. Hamburger's case with a heart-rate at 20 prior to a convulsive attack I counted intervals of 20, 30, and once 35 seconds in which there was no heart beat to be seen, heard, or felt. The pulse in true bradycardia is usually full, strong, and regular. This last feature is marked and is apt to deceive the inexperienced as it may be present with intervening abortive systoles—the "coupled rhythm." There may be a very strong pulse with an indistinct cardiac impulse and feeble sounds, or just the opposite. The infrequency in true bradycardia seems to be due to prolongation of the diastole; the systole as a rule is sharp and quick. The tracing which is here presented shows this very clearly. By far the best sphygmogram I have seen is the one here given which was taken by Dr. Wells of Chicago. It is a normal tracing, except in the extraordinary prolongation of the line of descent, the period of diastole.

False bradycardia.—Stokes noted in his patient that the pulse-rate and the heart-rate were not the same and that there were semi-beats of the heart. In three of my series these abortive beats were present. They may not be evident at the radials or in the carotids where the pulsations may be in orderly sequence and of exactly equal size—so that at the wrist there is no indication whatever of arrhythmia; even the sphygmographic tracing may not show the interpolated beats. They may sometimes be seen and felt at the apex as in Case 5; more often they may be heard with distinctness. The number of abortive systoles varies; usually they are alternate and in orderly sequence, so that with a pulse of 40 at the

wrist 80 heart beats may be seen and 80 first sounds may be heard—the "coupled rhythm." In the severe attacks with very infrequent pulse there may be a number of abortive beats. In Case 5 in which this feature was studied with great care there were remarkable variations. On one occasion, with a pulse-rate at the wrist of 12, the heart beats were 100; on another they were 143. On May 26th the pulse was 19 to the minute at the wrist, with 74 palpable, visible, and audible cardiac beats. On the 29th the pulse-rate and heart-rate were the same (28), no intervening beats could be seen, but on auscultation there were feeble, only just audible, systolic sounds intervening between the forcible thumping pulsations which shook the whole chest.

Pulse-tracing of the patient whose description of his own case is given above. Pulse-rate at 40.

The question has been raised whether in all cases there are not these abortive beats, too feeble to be seen, felt, or heard. Case 5 was a very favourable one in which to study this problem. All the abortive systoles were usually visible on the thin chest wall and palpable. One day with the pulse at 28 and the same apparently at the heart and the wrist and without any visible or palpable abortive systoles such as were usually present, on auscultation one could hear distinctly soft systolic sounds intervening between the loud booming shocks. In other cases I have listened with the greatest care but in vain for these abortive sounds.

The "heart-block," or independent auricular systole, without corresponding ventricular contractions.—Stokes noted on the readmission of his patient a new symptom—a remarkable pulsation in the right jugular vein, more than double the rate of the ventricular contractions. This feature has been studied by Chauveau, by Quincke, by His, jun., and others, who are of opinion that the jugular pulsations correspond to independent auricular contractions which are not propagated to the ventricles—a state of "heart-block," as Gaskell terms it. In Case 5 the jugular pulsations never corresponded in number with the carotid pulsations or with the total number of ventricular beats. Cardiac, radial, and jugular tracings were taken simultaneously, from which, unfortunately, nothing very definite could be determined.

Jacquet has recently called in question the existence of these independent auricular contractions,* the existence of which his tracings do not support. It is quite possible that there are ventricular contractions too feeble to be heard and too feeble to open the sigmoid valves, yet which might in a dilated heart cause a pulse-wave in the right jugular vein. In Case 5 as a rule the interpolated beats were palpable, visible, and audible, but they continued to be *heard* after they had ceased to be felt or seen, and still feebler contractions might cause no sound and yet transmit a wave to the veins through an insufficient tricuspid valve. We cannot dismiss the question of independent auricular contractions as settled. In Dr. Hamburger's case slight but definite jugular pulsations were visible in the prolonged periods of systole with complete silence over the cardiac area.

Cardiac arrest.—This phenomenon is one of the most remarkable witnessed at the bedside. In the case just referred to the apparent stoppage always preceded the slight convulsive attack. The eyes were set, the face was flushed at first, then pale, and the patient appeared to be in the article of death. In such circumstances to wait 35 seconds, watch in hand, without a heart beat seems like the final "count-out"; but this man, after scores of such attacks, recovered sufficiently to go to his home. A precisely similar condition is met with in some cases of angina pectoris. It always suggests to me the heart state of fibrillary contraction produced experimentally by the Kronecker puncture.

Vaso-motor changes.—As in angina pectoris the vaso-motor system is profoundly involved in the severe attacks, as shown by the pallor, the sweating, and the vomiting, and in some cases by the marked paræsthesia, the numbness, and the tingling.

* Deutsches Archiv für Klinische Medicin, Band lxxii.

NERVOUS FEATURES.

It is for these the patient seeks relief, naturally much alarmed. Four forms of attack occur:—

Vertigo.—While walking in the streets or engaged in conversation the patient feels giddy and staggers or may fall unless he catches hold of something. As in Case 2, the attack may be of great severity and very distressing, incapacitating the patient. The attacks may precede for years the onset of severer forms. In very old men with a permanent slow pulse this may be the only manifestation. It is a well-recognised and common symptom of arterio-sclerosis.

Syncope.—Much more alarming are the fainting attacks with complete loss of consciousness. Without warning the patient becomes pale and may fall instantly in a deep faint, with feeble, imperceptible pulse and the general features of cardio-vascular collapse. The respirations are shallow, a clammy sweat breaks out, and in severe attacks death may seem imminent; indeed, the patient may pass away without recovering consciousness. As a rule the attack does not last more than a few minutes. Many attacks may occur in a day and, as in Case 2, they may alternate with vertigo. They may resemble in character *petit mal*. Syncope is the most frequent of the severe nervous symptoms and occurred in eight of my cases.

Pseudo-apoplexy.—The patient falls in a deep coma, with loud stertorous breathing, deeply congested face, and all the features of an apoplectic stroke. Both Adams and Stokes describe the condition most accurately and the latter comments on the remarkable circumstance that there is no consecutive paralysis, as after an ordinary stroke. There are rarely convulsive movements and in four or five minutes consciousness is restored and the patient may get up and go about his work (Case 6). An extraordinary feature is the frequency of the attacks as noted by Adams and Stokes. In Case 6 they had recurred for many years and had been associated with transient attacks of motor aphasia, such as are met with not infrequently in advanced arterio-sclerosis.

Epileptic seizures.—As mentioned, the transient vertigo and syncope may resemble *petit mal*. The convulsive attacks are either slight spasms of the muscles of the face and hands with the loss of consciousness, as in Case 5, or more rarely they may be more general, resembling true epilepsy. In Case 5 and in Dr. Hamburger's case the convulsive attacks were very frequent. In the latter we could tell at once when the attack was coming on. The pulse would stop for 20 or more seconds, the face flushed, the breath was held, the eyes rolled up, and twitching of the face and hands began. Sometimes the attacks may not last for more than a few seconds and the patient may go on with a conversation; even a 100 or more of such attacks may occur in a day.

PULMONARY FEATURES.

The cases present the respiratory symptoms so often met with in chronic myocarditis. Attacks of cardiac asthma are common, occurring chiefly at night (Case 9). These may be the features of angina sine dolore, the distress, the pallor, the sweating, the shortness of breath, or the state called by Goodhart acute emphysema, with universal wheezing, the *Lungen-starheit* and *Lungenschwellung* of von Basch—which, I take it, is nothing more than acute œdema of the lungs. Cheyne-Stokes breathing is more common and was met with in four cases of my series. In the pseudo-apoplectic attacks the stertor, with deep laboured respiration and expiratory puffing of the cheeks, may have all the intensity of the genuine stroke. Prior to the attacks of epilepsy there may be transient arrest of respiration with flushing of the face.

PATHOLOGY.

It is by no means easy to discuss intelligently the pathology of these remarkable attacks. We have two great groups of bradycardia—the one associated with lesions in the heart itself, the other with disturbances in the nervous system,

organic (as in many well-known cases) or functional, without any obvious changes. It is not the infrequent pulse, transient or permanent, which is so difficult to understand but the phenomena of the attacks of Stokes-Adams disease. What has happened so to disturb the rhythm of the heart that to one perfect there are four or five abortive systoles, or that the rate is reduced to 40, 30, or even 20 to the minute, or that the auricular wave should not be propagated to the ventricles, or that there should be prolonged periods of 15, 20, or even 35 seconds in which the heart actually stops? Is the essential factor central in the medulla, or in the ganglia of the heart, or in the automatic mechanism of the muscle itself, or in the auriculo-ventricular bundle of His, jun., or in Kronecker's coördination centre? I do not think that we know. The key to an explanation of the cerebral features of the attack is the well-known Kussmaul and Tenner experiment. Consciousness and control of the muscles depend upon a uniform blood-supply in the nerve centres. Even transient pressure upon the carotids, in a suitable subject, may cause syncope, a knowledge of which Kussmaul in describing his original work attributes to Galen.[9] More prolonged pressure may be followed by convulsions. Transient anæmia of the nerve centres is sufficient to explain the vertigo and syncope, and it may be of cardiac origin or in many cases, as Huchard insists, it may be due to local changes in the vessels of the medulla. In any case these cerebral features may be brought into line with recurring attacks of transient aphasia, with or without loss of consciousness, of monoplegia, and of hemiplegia which are not uncommon in advanced arterio-sclerosis.

PROGNOSIS.

In all cases and in all forms the outlook is bad. In a few instances in young persons recovery has taken place. The disease may last for many years. I could see no reason to doubt the statement of the patient in Case 9 that he had had a permanently slow pulse for 30 years, and there are undoubtedly cases of true bradycardia in which good health has been maintained for years. Once the severer nervous symptoms have begun there is very little prospect of complete relief, though, as in Case 2, the patient may live for six years. Even after the most aggravated seizures temporary improvement may follow. The extreme gravity of the condition may be gathered from the cases here reported—seven are dead. Sudden death is the most common and occurred in six cases of the series.

TREATMENT.

In younger patients with arterio-sclerosis it may be worth while to try the remedies which some think may have an influence on the sclerosis; certainly, if there is a history of syphilis, iodide of potassium should be used. With high tension nitrites are indicated. In the senile form with vertigo I doubt if it is expedient to do more than to keep the bowels open and to see that too much food is not taken. The nitrites seem to be helpful in some instances when given freely, in others they are useless. The histories of cases in the literature and of those which I have given speak only too plainly of a condition not much within the scope of our art. So far as I know we have no remedy at our command which will accelerate a permanently slow pulse. Atropine may be tried, as Dehio suggests. A quiet, well-regulated life helps to ward off the attacks of vertigo and syncope as in angina pectoris. Emotional disturbances and over-exertion are to be avoided. In spite of the utmost care and most persistent treatment a patient's life (Case 2) may become a burden with the recurring seizures. For the syncope nitrite of amyl and strong ammonia may be used. When there is a warning, as sometimes is the case, their use may prevent an attack. Brandy, ether and the strong cardiac stimulants may be necessary to revive a patient in a protracted attack. The epileptiform and pseudo-apoplectic attacks may sometimes be prevented by posture. Stokes's patient could ward them off by hanging down the head and in Case 9 rubbing the wrists violently would ward off an attack. Nothing seems to control the recurring attempts at death as in Case 5 and in Dr. Hamburger's patient oxygen inhalations are said to have given relief. With signs of dilatation of the heart and many abortive systoles and infiltration of the bases of the lungs digitalis may be cautiously tried.

Baltimore.

[9] Aus meiner Docentenzeit in Heidelberg 1901, p. 28. Kussmaul describes one of his experiments on a friend who had boasted of his strength. "His carotids were most favourably placed. Scarcely had I compressed them with my fingers when he turned pale and collapsed off the stool. I had just time to catch him. He recovered consciousness immediately and said 'Where am I?'" This is an exact counterpart of some of the transient Stokes-Adams attacks.

INTESTINAL ANASTOMOSIS FOR PROLAPSED SMALL INTESTINE.

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As the state of affairs in the following case was somewhat exceptional and presents several points of interest I think it worth recording. The patient was 12 years of age when I first saw him and his mother told me that he was quite well up to three and a half years ago when he had a sudden attack of pain in the abdomen and stoppage of the bowels. Poultices were applied but the abdomen became swollen and the child so ill that an operation was performed. This operation apparently consisted in opening the abdomen in the middle line, bringing a coil of small intestine to the surface, and opening it. Relief was thus afforded for about two weeks when the abdomen again became as distended as before. A second operation was performed, another coil of small intestine being brought to the surface to the right of the middle line. After this he obtained permanent relief so far as the intestinal obstruction was concerned, but subsequently the small intestine prolapsed through both wounds to some considerable extent, rendering the condition of the child a very miserable one. The fæces escaped entirely through one of the prolapsed pieces on the right side, nothing but clear fluid escaping from the prolapsed gut in the middle line. The skin in the neighbourhood of these openings became raw and for nine months the child passed his existence lying upon his abdomen with the prolapsed intestine in a receptacle. To add to his trouble he one day passed about a teacupful of pus by the urethra, the supposition being that an abscess had burst into his bladder. However, he had no further urinary trouble and for two years before I saw him he had been getting about carrying his prolapsed intestine in a bag attached to his waist. When I first saw him in May, 1901, his condition was extremely pitiable and is well represented in the accompanying illustration (Fig. 1). He walked into the out-patient room leaning forward and looking very ill. When he undressed and lowered the bag containing his prolapsed intestine, which with its constant wriggling appeared like two large worms attached to the abdominal wall, it was at first sight difficult to say what had happened. After a more careful examination I made out that these coils of gut were prolapsed intestine, the mucous surface being exterior. Fæces only escaped from the point A and nothing but clear fluid from the points B, C, D. His bowels had not acted naturally for three and a half years. On further investigating the case I ascertained that on injecting water at A it escaped freely at B; on injecting at B it escaped after a little while at C; from C it passed freely to D and from D to the rectum. These experimental injections were painful and caused him to vomit, more especially when water was injected with some little difficulty from B to C. What the true explanation was of the boy's intestinal arrangements I did not know but considered the site of his original trouble to be somewhere in the coil of gut between the points B and C.

The question was, Could we do anything to help the poor lad? At first sight it might appear from our injection experiments that all that was necessary was to join A to B and C to D, but as water could only be made to pass with pain and difficulty from B to C I thought that if these several points were successfully joined it would only result in a return of the symptoms of three and a half years ago. What I decided to try to do was to join the small intestine at the point A to the ascending or transverse colon if I could find it. With this object in view on May 22nd, 1901, I in the first place cut away the prolapsed portion of gut, C, D, which was serving no useful purpose. The boy stood the operation well. On August 30th I opened the abdomen above the A, B loop and without much difficulty found the portion of small intestines passing to A, but I hunted for some time before I could find any sign of the large bowel. However, by injecting air per rectum by means of

a bicycle pump the transverse colon, which owing to prolonged disuse had greatly diminished in size, became distended and was easily recognised. Having now found my two points for junction I divided the small intestine, invaginating the end entering A, cut across the commencement of the transverse colon, invaginated the cæcal end, and stitched the small intestine and transverse colon end to end. The operation was a severe one and occupied about an hour, the boy at this time being very collapsed and I had grave doubts as to his recovery. I was also in doubt, even if he did rally, whether the large intestine after lying fallow for three and a half years would again resume its functions, and it was a source of pleasure to me and a surprise and relief to my patient when 24 hours after the operation the bowels acted naturally. His subsequent recovery was slow but uneventful; he gradually gained in health and strength and now attends school daily. Though his present condition, compared with what it was, is satisfactory, it is by no means all that could be desired, for, as represented in Fig. 2, there is still a piece of prolapsed and useless small intestine leading to the original seat of his trouble. About 12 months ago I made an unsuccessful attempt to get rid of this remaining prolapse by invaginating the gut at the point B and closing the abdominal wall over it. The failure was due to a collection of offensive muco-purulent fluid in the portion of gut thus occluded which necessitated my re-opening it. There is now a slight but constant discharge of clear non-offensive fluid from the point B, but I am not disposed to make any further attempt at getting rid of the prolapse by means of invaginating the gut, and, on the other hand, I very much doubt whether complete excision of the portion of intestine leading from B to the original source of trouble would be possible.

Apart from any surgical interest the case may present I think it points to the value of the large intestine in general metabolism, for as the result of my interference the portion of the child's gastro-intestinal tract in active use has not been very appreciably increased in length, but one-half of the large bowel has been induced to resume its physiological functions greatly to the comfort and well-being of the patient.

FIG. 1.

Condition of patient on admission.

PS.—The above notes were written more than 12 months ago. In June last the boy was re-admitted on account of great abdominal distension; he was very ill and suffering much pain. The abdominal distension had existed for about two months. When I saw him there was no intestinal obstruction and his general condition was such that I did not consider any further operation likely to benefit him. He died a week later and at a subsequent examination we found that the portion of intestine I had occluded—namely, 18 inches of the ileum, the cæcum and ascending colon—was enormously distended, filling the greater part of the abdomen. It was entirely shut off from the rest of the gastro-intestinal tract and filled with offensive muco-purulent fluid. The point of anastomosis between the ileum and the transverse colon was difficult to determine. The vermiform appendix was represented by a short and thickened stump and "appendicitis" was no doubt the original source of the boy's troubles. The case demonstrates the danger there is in retaining in the abdomen any portion of gut occluded at each end.

Liverpool.

FIG. 2.

Condition after operation.

A CASE OF SAPRÆMIA DUE TO PYORRHŒA ALVEOLARIS SIMULATING TYPHOID FEVER.

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SURGEON TO THE ROYAL FREE HOSPITAL.

THE patient, aged 29 years, had been a nurse in the Royal Free Hospital for nearly three years and except for an attack of German measles in 1901 had enjoyed good health. She had never had typhoid fever and had had no trouble with her teeth except that two or three had been extracted for caries. For a week or two before the commencement of her illness she had noticed that her gums bled easily when using the tooth-brush. She was kept in bed from Dec. 20th, 1902, having been complaining for four or five days previously of general malaise, slight shivering, and aching of the limbs. The temperature from the first was remittent or intermittent in type, rising every day to 103° or 104° F., and falling again to normal, except that for the first three or four days after Dec. 20th it only dropped to 100° or 101°; the pulse-rate was from 90 to 110; and the

respiration-rate was from 20 to 24 per minute. The tongue was furred and there were complete anorexia, slight headache, a good deal of pain at the back of the neck, and marked mental depression. After the first few days there was some diarrhœa, two or three loose motions being passed daily. On Jan. 1st the blood was examined and the Widal reaction was found to be positive (with a dilution of 1 in 30 complete clumping occurred at the end of half an hour). At this time the disease was regarded as in all probability typhoid fever, especially as the symptoms and the course of the temperature were exceedingly similar to those which had been present at a corresponding period of the illness of another nurse who had died from undoubted enteric fever only a week or two previously. There were, however, no distension of the abdomen, no evidence of enlargement of the spleen, no bronchitis, and no appearance of spots. The symptoms now continued with very little alteration for several weeks, except that the diarrhœa gradually subsided. The temperature rose every evening with great regularity, for the first four days to 104°, then for about a fortnight to 103°, and afterwards to 101° or 102°; it was always normal, or very nearly normal, in the morning, except—as already mentioned—for the first few days. There was never any rigor or shivering. This persistently intermittent type of fever, together with the absence of many of the ordinary symptoms of typhoid fever, gradually rendered the diagnosis less and less probable, but although repeated careful examinations were made no other cause for the fever could be found until at last attention was directed to the condition of the mouth. After the patient had been in bed a week or two she began to complain of dryness and soreness of the lips, gums, and front of the mouth. At first these symptoms were attributed merely to the fever and to the general condition, but as some pyorrhœa alveolaris was found to be present various antiseptic lotions were employed and shortly afterwards the evening rise of temperature began to be distinctly less marked. It was only, however, the long and regular persistence of the fever and the utter inability to find any other cause for it that at last led to the suspicion that the condition of the gums might actually account for the illness. Mr. Roughton was therefore asked to see the patient and as he found that pus exuded on pressure from the sockets of both the upper and lower incisor and canine teeth, particularly around the upper lateral incisors, he advised the extraction of these two teeth. This was done on Jan. 27th and there was a relatively considerable escape of pus afterwards from the sockets; in addition a thorough antiseptic treatment was applied to the gums generally, chiefly by a 1 in 80 solution of carbolic acid. The effect was immediate. The highest temperature on Jan. 27th was 101·4°, next day it only reached 99·8°, and never subsequently rose to 99°. Convalescence was rapid and no special precautions were taken in regard to diet, solid food being given freely as soon as the patient wished for it. She has remained quite well ever since and the pyorrhœa alveolaris has been practically cured by the application of listerine and of a solution of hydrogen peroxide to the gums and teeth and by filling the pockets between the gums and teeth with powdered sulphate of copper. Three more teeth had, however, to be extracted owing to their becoming very loose. On Feb. 10th the blood was again examined and the Widal reaction was found to be negative (with a dilution of 1 in 30 most of the bacilli remained active at the end of half an hour, although a few clumps were seen).

In some lectures[1] delivered at the Medical Graduates' College and Polyclinic one of us drew attention to morbid conditions of the mouth as a source of systemic infection. Although not susceptible of logical proof there seems to be little doubt but that the case now recorded is an example of the effects of toxic absorption from suppurating gums. The indefinite nature of the febrile condition, coupled with its rapid disappearance as soon as the gums were adequately treated, seems to point very distinctly to the true nature of the case. The close resemblance of the symptoms in this case to those of typhoid fever is most interesting and suggests to the physician the advisability of carefully examining the condition of the mouth in all obscure febrile conditions and the importance of remembering that the mouth is not only an index of the condition of the alimentary canal, but may be really the *fons et origo mali*. Previous cases have been recorded of a positive Widal reaction in septicæmic and sapræmic conditions.

[1] Roughton: On Some Morbid Conditions of the Mouth, THE LANCET, Sept. 27th (p. 847) and Oct. 18th (p. 1029) and 25th (p. 1108), 1902.

NOTE ON THE TREATMENT OF CHOREA BY ASPIRIN.

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I HAVE recently endeavoured to ascertain whether the course of chorea minor can be influenced by treatment with aspirin. I have given the drug in 35 consecutive cases of chorea, in all of which the subjects were out-patients at the Ancoats Hospital and the Manchester Royal Infirmary. They were kept away from school but were not confined to bed. The favourable results obtained cannot therefore be attributed to the influence of rest in bed.

It is not without considerable hesitation that I have ventured to write this note on the treatment of chorea, since the disease is one which has usually a tendency to terminate in recovery in course of time, apart from any medical treatment. In the mild forms of the disease recovery may occur in from six to ten weeks, whilst in other cases the choreic movements may persist for many months, or even a year, or longer. Mild cases will recover without drug treatment. In severe cases we cannot immediately arrest the disease by aspirin or by any drug or form of treatment. When steady and progressive improvement follows medical treatment usually one or two weeks, often a longer time, must elapse before recovery is complete. Bearing these facts in mind the necessity for great caution in drawing conclusions as to the action of drugs will be evident. Notwithstanding these difficulties I believe that aspirin has a distinct beneficial effect in severe forms of chorea.

In the mildest forms of chorea good results often follow treatment by various drugs and may occur even when no drugs are given. In these very mild forms I have seen decided improvement in cases which I have treated simply with five minims of peppermint water three times a day or with very minute doses of quinine (one-quarter of a grain). Hence, though my mild cases have done well on aspirin, I cannot say that the result was due to the drug and that they would not have done well without it, but in the severe and persistent cases I believe that aspirin is of distinct service in diminishing the duration of the affection. Though the drug does not immediately check the choreic movements its administration is usually followed by distinct improvement in six or seven days after a dose of 10 or 15 grains four times a day has been reached. This improvement steadily continues until complete recovery occurs.

All of the 35 out-patients improved when treated with aspirin; the improvement was progressive and complete recovery occurred. When the patient was able to take aspirin well it was never necessary to resort to other drugs because improvement did not occur under the administration of aspirin. Further, I had no necessity to send any of the patients to bed for rest treatment. Though these general statements are in favour of the drug they will not convince readers of THE LANCET of its value and I am aware that I cannot put forward any *conclusive proofs* thereof. To furnish such conclusive proof of the curative action of aspirin it would be necessary to publish the results of treatment in two large series of cases of chorea, the cases in one series being treated with aspirin with better results than those obtained in the second series without the aspirin treatment. All other conditions should, of course, be the same in the two series. It is scarcely necessary to add that such series of observations are for many reasons very difficult to obtain. What has impressed me, however, so much in favour of aspirin is the steady and marked improvement which has often followed its use in severe cases of long duration which have resisted other drugs and methods of treatment. In cases of long duration and in recurring attacks the patients' friends have, on several occasions, been much impressed with the value of the aspirin and on the recurrence of choreic movements at a later date have reminded me of the benefit derived from the drug in the previous attack. I am aware that such statements by the

patients' friends are by no means conclusive evidence of the value of any drug; nevertheless they are worthy of mention.

As regards the administration of the drug I have usually commenced with 10 grains as a powder twice a day in children over seven years of age and rapidly increased up to 10 or 15 grains (according to age) four times a day. In children under seven years of age smaller doses will be necessary. It is, of course, important to watch for toxic symptoms and to diminish the dose or to discontinue the drug if these occur. Toxic symptoms similar to those caused by salicylates (noises in the ears, &c.) do not often occur and most children take the large doses just mentioned without any ill-effects, but occasionally the drug causes gastric irritation or vomiting even in small doses of five grains. These symptoms I have not infrequently noticed in patients receiving the drug from the out-patient room at the Manchester Royal Infirmary but very rarely in patients at the Ancoats Hospital. It is probable that the vomiting is due to some impurity of the drug or to some idiosyncrasy of the patient. It is important that no alkali should be taken just after the aspirin, otherwise the drug is very liable to decompose in the stomach and to produce gastric symptoms. I usually give the powders in water to which a drop of lemon-juice has been added. If in spite of these precautions gastric symptoms and vomiting occur the drug should be discontinued. I have been obliged to discontinue the drug permanently in a few cases on account of sickness, but had not to do so in any of the 35 cases here under consideration. I believe that it is only when the doses already mentioned can be taken well that the drug is likely to be of service. The following are brief abstracts of notes of eight out of the 35 cases.

CASE 1.—The patient was a girl, aged 14 years, who had had two previous attacks of chorea. The present attack had been of four months' duration. The patient had been previously treated as an in-patient (with rest in bed) at a large hospital with very little effect. Aspirin was given (15 grains three times a day); steady and marked improvement occurred. At the end of 24 days there was complete recovery with no recurrence of the symptoms.

CASE 2.—This was a case of chorea of six months' duration in a girl, aged 11 years. She was treated with small doses of liquor arsenicalis for three weeks without any effect. Aspirin was then given. Steady and marked improvement occurred and the patient ceased to attend the hospital. Three months later choreic movements returned. After this second attack of chorea had continued for six weeks the patient was brought to the out-patient room by her mother who reminded me of the rapid improvement which had followed the use of the powders (of aspirin) in the first attack. Aspirin was given, 10 grains three times a day and the dose was increased to 15 grains four times a day. In six days there was distinct improvement; three days later the improvement was more marked and when seen 12 days after the commencement of the aspirin treatment (and seven days after the dose of 15 grains four times a day had been reached) the patient was quite well and the choreic movements had entirely ceased.

CASE 3.—The patient, a girl, aged 12 years, had had repeated attacks of chorea for four years with occasional short intermissions of three or four weeks' duration. She was taken to the out-patient room of the Ancoats Hospital suffering from a severe attack of chorea which had persisted for three months. Aspirin was given with good results and the chorea rapidly subsided. For more than two months she remained quite well. The aspirin was discontinued. Early in 1903 the choreic movements returned and a severe attack of the affection developed. The girl had previously been treated as a hospital patient, but in order that she might have the same powders (of aspirin), and as she was not so poor as most hospital patients, her mother brought her to see me privately. The mother reminded me of the benefit which had been derived from the aspirin previously and requested that her daughter might again have the same treatment, as no other drug which had been tried in her numerous attacks had given her so much relief. Aspirin (10 grains three times a day) was given on Feb. 27th. On March 9th there was a little improvement and the dose was increased to 15 grains four times a day. On March 16th the improvement was decided and on the 28th the chorea was slight. On April 3rd the patient was practically well and she has remained quite well since that date.

CASE 4.—The patient was a girl, aged eight years. The onset of chorea happened about Christmas, 1902, and the symptoms gradually increased until Feb. 5th, 1903, when aspirin was given (10 grains three times a day) and improvement occurred. On Feb. 12th she was much better. The improvement was so marked that she discontinued all treatment. In a short time the choreic movements became much worse and she returned to the out-patient room for further treatment. On the 23rd aspirin (10 grains four times a day) was given. Improvement occurred rapidly and on March 2nd the chorea had entirely disappeared.

CASE 5.—This patient, a girl aged 14 years, had had chorea for two weeks. The movements were very violent. On April 8th aspirin was given (15 grains four times a day). On the 11th there was considerable improvement. On the 15th, one week after the drug was commenced, the choreic movements had almost ceased and on the 29th she was practically well.

CASE 6.—The patient, a girl, aged 13 years, was seen soon after the onset of the chorea. Aspirin was given (10 grains three times a day) and slight improvement occurred but the drug caused sickness and had to be discontinued. Liquor arsenicalis was given in small doses for five days but the choreic movements increased. For three days she was given aspirin but as sickness occurred it was again discontinued and for three days liquor arsenicalis was given. Then on Feb. 15th aspirin was given (15 grains four times a day). The patient was now able to continue this dose and decided improvement was noted on the 26th (five weeks after the onset of the disease). On March 2nd very little choreic movement could be detected. On the 16th the chorea had entirely disappeared.

CASE 7.—The patient was a girl, aged 12 years. The onset of the illness occurred at the end of May, 1903. The patient was treated at a large hospital and kept in bed for two weeks but no improvement resulted. I first saw the case one month after the onset of the affection. The choreic movements were then very marked. Aspirin was given on June 29th (10 grains twice a day) and was increased up to four times a day on July 1st. When seen on the next day the condition was much the same but on the 6th there was marked improvement. On the 9th the patient was practically well and by the 13th not the slightest trace of choreic movement could be detected.

CASE 8.—The patient was a boy, aged 15 years. There was a history of chorea 12 months before. The present attack had been of six weeks' duration and no improvement had taken place up to the time the aspirin was given on July 5th (10 grains four times a day). On the 9th and 13th only very slight improvement was noticed, but it was found that the aspirin had not been taken very regularly. The necessity for regularity was pointed out and the drug was continued. On the 20th the boy was practically well.

Amongst these 35 out-patients treated with aspirin there were cases of very long duration in which the symptoms persisted unchanged until this drug was given; decided improvement first occurred under treatment with aspirin and complete recovery followed. Often other methods of treatment had been tried without effect. Also in some severe cases of short duration—i.e., cases seen soon after the onset of the disease—improvement occurred rapidly when the patient was brought well under the influence of aspirin and complete recovery soon followed. From these and other facts already mentioned I do not think that the favourable results of treatment by aspirin can be attributed to lucky coincidences.

Though aspirin cannot be regarded as a specific for chorea, the results obtained by its administration are so favourable as to indicate the great probability of a beneficial action of the drug and it appears desirable that further observations should be made. It is only by very numerous observations that the beneficial action of drug treatment can be established in any affection which has a natural tendency to recovery.

Manchester.

AMPUTATION OF THE LEG UNDER HYPNOTISM.

BY FRANK G. ALDRICH, L.S.A.

IN the belief that the following case will prove of interest to the medical profession I venture to record it. The interest taken in hypnotism in this country is very small and the value of its therapeutic action in suitable cases is not appreciated. From an experience lasting over three

years I have formed a high opinion of the usefulness of hypnotism and suggestion and do not hesitate to use such treatment in my practice when occasion offers, with results which hitherto have been most encouraging. Having on repeated occasions successfully and painlessly performed minor operations on patients in the hypnotic state, I was not unprepared to undertake a case of greater magnitude if I could induce a surgeon to perform the operation. When, therefore, the patient, who was in a very low and feeble condition, requested me to call and asked if I would as a last resource undertake to remove her leg while under the influence of hypnotism, I reassured her and willingly did so after ascertaining the suitability of that treatment and the amenability of the patient. There was considerable opposition from various sources against the new method of treatment, but eventually I saw Mr. P. L. Daniel and arrangements were made. The history of the case is as follows.

The patient, a single woman, aged 38 years, had suffered for 17 years from extensive ulceration of both legs and necrosis of the left tibia which had resisted treatment, and the destructive process had extended to a deplorable extent. She had previously been operated on and had been a "bad subject" under chloroform and in consequence so dreaded the anæsthetic that although some years ago she had been strongly advised to submit to amputation she never gathered sufficient courage to face the anæsthetic, while being very anxious to get rid of the pain and anxiety caused especially by the left leg. I hypnotised her and proved her leg by pinching and inserting needles to be quite anæsthetic. On a subsequent occasion while hypnotised she was carried to a house more conveniently situated where the operation was to be performed.

On June 2nd I put her to sleep and rehearsed the operation, placing her on the operating table, &c., and suggested anæsthesia over the area to be operated on. When I saw her on the next morning she informed me that all feeling was absent from the upper part of the left leg and the knee. I then put her to sleep and prepared the leg for amputation, renewing the suggestions. I returned at 3.30 P.M. and put her to sleep at 3.45, not informing her that the operation was to be performed that day. The nurse arrived shortly after and the patient was placed on the table at 4 o'clock. When preparations for the operation were being made by the surgeons soon after 4.30 the patient became rather restless and appeared to take an interest in the proceedings so I covered her eyes, but she became more restless still, so I asked her what was troubling her and she said, "Don't cover my eyes." The eyelids at the time were closed. At 4.50, everything being in readiness, I told her that the operation was to commence and that she would feel nothing. She said, "All right, hold my hands," and while she spoke the skin incisions were made. During the course of the operation she several times asked the nurse for, and drank sips of, water and a little port wine and made general remarks. While the knee was being manipulated she became rather excited and voluble, her condition somewhat resembling the excitement stage of chloroform anæsthesia except that she lay perfectly quiet. She asked me "what they were doing?" and I reassured her and said that the worst was over and that they were going to put on the bandages; she then became quite tranquil. After the flaps were united I told her that she had been very good and that she might open her eyes. She gradually returned to her normal state, I meanwhile looking into her eyes, until she said: "All right, you need not look at me any longer; I want to see what is going on." She took an interest in the bandaging and chatted and laughed as if nothing had happened. About 5.30 we left her feeling quite comfortable. Her pulse was normal at the end of the operation. Her temperature was 98° F. and there was absolutely no shock. At 6.30 she enjoyed a light meal. She had a fairly good night's rest and on the next morning looked as if nothing had happened. She made a good recovery. Her temperature was never beyond 98·4° and she experienced very little pain. Within a month she was out of doors. Mr. Daniel has kindly written a brief record of the operation which is appended.

Note by Mr. DANIEL.—When Mr. Aldrich asked me if I would amputate a leg for necrosis of the tibia and extensive scarring of the skin of the leg under hypnotism I was not very eager for the experience, but I consented if the apparatus for anæsthesia were provided and resort immediately had to ether or chloroform at the slightest hitch. It was decided to do a Stephen Smith's disarticulation through the knee-joint as the condition of the skin precluded an amputation lower down. On June 3rd, when I arrived with Mr. A. Cardell Oliver who was to assist me, we found the patient lying on the operating table on her right side with the clothing so arranged that she was protected from draughts and unable to see the field of operation. We were informed that she was insensible to pain in the left limb.

Quickly and quietly we sterilised the instruments and prepared ligatures, &c. Then after a preliminary scrub up, the skin having been carefully prepared beforehand, an Esmarch's rubber bandage was applied to the thigh after elevation and gentle upward stroking to empty the veins. The patient gave no sign of pain or sensation when the bandage was applied. Then all being in readiness a circular incision a short distance below the tubercle of the tibia, and two median vertical incisions from this were made, the anterior almost as high as the tubercle and the posterior to the centre of the ham, and the two flaps were raised. During this time no evidence of sensation or pain in the way of exclamation, wincing, or movement was made by the patient. A little bleeding from the veins occurred. After cutting through the ligamentum patellæ the semilunar cartilages were separated from the head of the tibia and when the lateral ligaments, which seemed to be very tough and dense, were cut the patient asked what was being done but no movement of any kind was made. The limb was perfectly steady and on being told that the operation was practically finished she became quiet. The structures in the popliteal space were then severed, to my astonishment, without any recognition on the part of the patient. The vessels were clamped and the Esmarch's bandage was slackened off, all bleeding points were secured and ligated with silk, and the surface was lightly swabbed over. After the corners of the flaps were trimmed the edges were united with a continuous silk suture and the wound was closed without drainage. The patient was now awakened and complained of "pins and needles" in her leg but was pleased to learn that the leg was off. The dressings were applied and she was put to bed with the limb secured on a pillow. I examined per pulse and found it to be of good volume, regular, and about 74 per minute. She showed no appearance of shock. The loss of blood was very slight.

Subsequent course.—On the fifth day some hæmorrhage occurred and Mr. Oliver saw the patient. A gauze drain was put in and the wound was re-dressed. The bleeding recurred several times and when I saw her on the seventh day I could not decide upon its source or cause beyond that the wound was not septic and that the popliteal artery was not the source of the bleeding. At a later period I found a small portion of the anterior border of the flaps, which were in close proximity to extensive scars, having been closely bound down to the tibia, had sloughed. The wound here healed by granulation.

Clapton, N.E.

THE SUCCESSFUL TREATMENT OF THORACIC ANEURYSMS BY LARGE DOSES OF IODIDE OF POTASSIUM.

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IN the treatment of internal aneurysms with iodide of potassium I think that failure often results from the physician hesitating to give a sufficiently large dose, especially should symptoms of iodism manifest themselves. Within the last few years I have had several cases and as all have had a happy termination after the employment of unusually large doses of iodide of potassium I propose to give a short record of two or three of them.

The first case was that of a man, aged 23 years, who used to cycle to excess and to indulge in other violent forms of physical exercise. He came to me with a painful, pulsating tumour at the root of the neck, just above the suprasternal notch. A very loud bruit could be heard and there was little difficulty about the diagnosis. He was kept in bed and

placed on the "Tufnell" diet. Iodide of potassium with various anodynes was given in gradually increasing doses until the patient was taking 70 grains three times daily and then, and not until then, a marked improvement began to be noticed. After three months he got up and a week later was walking quietly about with no pain and very little of the swelling in the suprasternal notch. He went to the seaside and two months later when he returned to his business in the city he was looking well, there was no swelling, and I could hear no bruit.

The second case was of a similar nature. The patient was a man who had engaged in violent physical training and presented on examination a painful pulsating tumour in just the same situation, though the bruit was not so easily heard; but evidently in this case, as in the former, the aneurysm was sacculated and was not an enlargement of the whole circumference of the aorta. He was kept in bed on the same strict diet and was given iodide of potassium in increasing doses with at times aperients and anodynes and on one occasion arsenic. When the doses of iodide of potassium had reached 75 grains three times daily a marked improvement commenced and this was kept up for 14 weeks. At the expiration of this period he got up and shortly afterwards went into the country. I saw him some months later and he expressed himself as feeling exceedingly well and thought that he could do a little "training" again, which, however, I strongly advised him against.

The third and last case which I propose to describe was the worst and looked for some time almost hopeless. The patient was a man, aged 23 years, who had undoubtedly been suffering for a considerable time and had received various kinds of treatment in accordance with the different diagnoses which had been made. He had been accustomed to play the cornet almost every evening and to this, as the immediate cause, I attributed his trouble. It was six years before I saw him that he first began to be troubled with pain on the left side of his chest which he stated was at times so severe as to produce actual vomiting; at other times it was of a dull, aching nature, and increased on taking a deep inspiration. After enduring these pains for four months he consulted a medical man who treated the condition as one of rheumatism. After continuing in this state for about a year, the pains troubling him on and off, he noticed a swelling on the left side of his chest near the clavicle. Becoming gradually worse, he consulted several other medical men, two of whom applied iodine externally, while the last said that nothing could be done for him. He first consulted me on March 6th, 1901, when I prescribed lead-and-opium lotion to be applied over the swelling which was situated in the second left intercostal space. On March 19th I placed him on iodide of potassium with some other ingredients of a simple nature. He seemed to have slightly improved, for I lost sight of him and he went on playing the cornet up to December, 1901. In January, 1902, he had, however, become so ill that when he sent for me on the 11th I found him in bed and in a most serious condition, the tumour protruding about an inch and a quarter from the anterior wall of the chest and pulsating strongly. It was expansile and a bruit was audible. I at once prescribed a restricted diet, aperients, and iodide of potassium with anodynes and depressants. Some weeks later Sir William Broadbent saw him in consultation with me and thought it best to continue with the same treatment. After he had been in bed for eight weeks Sir William J. Collins saw him with me and was of opinion that he had better try another eight weeks of the same treatment. Sir William Broadbent did not advise a larger dose of iodide of potassium than 60 grains. About the ninth week I increased the dose to 70 grains three times a day and one evening the patient became so ill that I was sent for hurriedly and Dr. F. Edridge-Green, who accompanied me on this visit, remarked that he would not give much for the patient's life. The thin part of the anterior wall where the skin was tightly stretched had given way slightly and a considerable quantity of blood had escaped, which, however, ceased as the pressure became lower. Up to then, be it noticed, there was little or no indication of any improvement and I thereupon increased the iodide of potassium to 80 grains three times daily, the low diet, absolute rest, and scarcely any drink at all being still maintained. After taking 240 grains daily for a few weeks the patient made very excellent progress; in about seven weeks from the date of the hæmorrhage he was out of bed and in about three weeks more he was at the seaside. I have seen him within the last few weeks and he is looking exceedingly well; he goes to business and leads a quiet life without much inconvenience. Beyond a few spots on his legs and two on his forehead he betrayed no signs of iodism and I cannot help remembering the words of one of my old teachers, who is unfortunately no longer among us, that if iodism showed itself the proper course was to double the dose.

I think that most physicians hesitate to give iodide of potassium in doses of more than 60 grains, but the point which I wish to insist on is that little result is obtained in bad cases until the dose is over 60 grains. I have not as yet, however, given more than 240 grains per diem to any patient.

Haverstock-hill, N.W.

BRADYCARDIA IN HEALTH.

BY ROBERT J. BLACKHAM, L.R.C.P. EDIN.,
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ON looking up the subject of bradycardia in standard works on cardiac diseases one is struck by two facts, the first being that some diversity of opinion obtains as to whether it is a comparatively common or a very rare affection and the second that great dissatisfaction exists with regard to the name itself, although it is blessed by the approval of the Joint Committee of the Royal College of Physicians of London, some preferring the term "brachycardia" and others insisting on a change of nomenclature to "araiocardia," "oligocardia," &c. Osler affirms that bradycardia "depending on individual peculiarity is extremely rare," whereas Professor Clifford Allbutt states: "Of normal slow pulse we see many examples." The former view is supported by Dr. Frederick Taylor who states: "As a purely functional disturbance it (bradycardia) is extremely rare," and in "The Twentieth Century System of Medicine" by the statement that "permanent bradycardia implies, as a rule, organic disease usually of the nervous system of the heart," the inference being that permanent bradycardia without organic disease is rare. In Osler's view I think most general practitioners will concur and the writers of the smaller books on medicine support this opinion by the fact that they dismiss the subject in a few lines. Osler treats of the syndrome under two heads and speaks of physiological and pathological brachycardia, giving ten causes of the latter which may be briefly summarised as follows: (1) convalescence from the acute fevers; (2) diseases of the digestive tract; (3) diseases of the respiratory system; (4) cardiac disease; (5) disease of the genito-urinary tract; (6) toxic agents such as lead, alcohol, tobacco, digitalis, &c.; (7) anæmia; (8) disease of the central nervous system; (9) certain diseases of the skin; and (10) asthenia. Professor Clifford Allbutt's epigrammatic summary of our knowledge of the condition is worth quoting. He says: "Bradycardia is a superfine name to denote slow pulse; it connotes nothing."

In military practice, whereas tachycardia, or, as the official nomenclature puts it, "273 Disordered Action of Heart (*b*)," is a very common disability amongst young soldiers, "Disordered Action of the Heart (*a*)"—to give bradycardia the name by which it is known in army medical statistics—is, in my experience, an extremely rare affection, so that a case which came under my care last year appears to be worthy of record, especially as it recalls the classical case of Napoleon, who is stated by Corvisart to have had a pulse of only 40 per minute.

The patient is a soldier, over 40 years of age, of medium height and exceptionally fine physique. He is a man who has led an extremely active life and has held many responsible positions. He is a good athlete and has lived carefully and abstemiously in a manner worthy of his military training. He came under my care complaining of præcordial pain of a transient character at long intervals. He was aware that his pulse was unusually slow as the fact had been commented on many years previously by a medical attendant. On examination I found the apex beat in the usual position and the areas of superficial and deep cardiac dulness perfectly normal. The cardiac sounds were absolutely clear over the various auscultatory points but the pulse was found to be only 45 per minute. Violent exercise sent the rate up to 50 or 55 per minute but it never exceeded the latter figure and rapidly fell to 50 or less after a brief rest. The

lungs, liver, kidneys, and spleen were normal and there was not the slightest trace of organic nervous disease. The patient is a man of iron nerves, as may be gathered from the fact that he is a rifle shot of the first order and has won many prizes for shooting. He had suffered from occasional attacks of flatulent dyspepsia and it was to one of these attacks with its concomitant cardiac pain from distension of the diaphragm that I was indebted for an opportunity of observing a case of what I believe to be absolutely physiological bradycardia. I placed the patient on a careful dietary and a course of stomachic bitters with pepsine and the præcordial distress rapidly disappeared and, so far as I am aware, has not returned. He was under my immediate supervision for upwards of six months and I have heard from him at intervals since. The last Indian mail brought me a letter from him informing me that at the time of writing he was in excellent health and free from the præcordial discomfort but that the pulse-rate remains unaltered, so as the patient came under my observation nearly 18 months ago the condition may be safely considered to be permanent.

The case is, of course, not unique, as in addition to the case of Napoleon mentioned above, Roux, Sir William Broadbent and other observers have recorded somewhat similar ones, but it is, I think, sufficiently uncommon, especially in military practice, to merit being placed on record.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

CONCERNING THE NATURE OF THE GREEN PIGMENTATION OF THE TISSUES IN CHLOROMA.

BY EDGAR G. TREVITHICK, M.D. CANTAB.,
PHYSICIAN TO THE CHELTENHAM GENERAL HOSPITAL.

IN describing a case of chloroma in THE LANCET of July 18th, 1903, p. 158, I stated that the brilliant green pigmentation of the affected organs faded rapidly after their removal from the body and that I had been unable to find any reagent that would bring back the colour. I now wish to record the observation that when such organs are treated with a solution of peroxide of hydrogen the green colouration becomes quickly restored. When removed from the peroxide bath the colour again fades away, but if after the tissues have been thus a second time bleached by exposure to air they be once more immersed in the peroxide solution the green colouration reappears.

I send this additional note on the case in the hope that the facts herein stated may enable those who are well versed in the subject of pigmentations to form some opinion as to the nature of the substance responsible for the manifestations described.

The kidneys, the ovaries, the uterus, and certain other tissues from this case had rested in formalin solution for rather more than two months and had entirely lost their greenness. When, however, one of the kidneys was placed in the peroxide solution the distribution of the original green pigmentation became, in the course of a few minutes, most faithfully reproduced. The whole of the subcapsular layer quickly regained its green colour and, in addition, all the small green islands originally described as occurring in the medullary portion of the gland again came into evidence.

Cheltenham.

HERNIOTOMY UNDER LOCAL ANÆSTHESIA.

BY MARCUS MARWOOD BOWLAN, M.B., B.S. DURH.,
MEDICAL SUPERINTENDENT, ST. GEORGE'S-IN-THE-EAST INFIRMARY.

THE interesting lecture on Local Analgesia by Mr. A. E. J. Barker published in THE LANCET of July 25th, p. 203, leads me to submit the following brief note of a case of herniotomy under local anæsthesia.

The patient, who was a feeble woman, 77 years of age, vomited on June 12th, 1903, and this continued until the next day (the 13th). When she came under my care I found her to be suffering from a right femoral hernia with absence of impulse on coughing. The vomit consisted of the contents of the upper intestine. The breath had a fæcal smell. The specific gravity of the urine was 1023, it was acid, and contained a trace of albumin. On the same afternoon 40 minims of a 1 per cent. solution of beta eucaine were injected under the skin of the area selected for incision and a quarter of an hour later the incision was made, the patient feeling no pain. About 20 minims more of the same solution were dropped into the wound during the dissection so that only one drachm of the 1 per cent. solution of eucaine was used. On opening the sac the gut exposed was found to be deeply congested and some blood-stained fluid escaped. However, on examining the crural ring with the finger the hernia slipped back through it so that the hernia knife had not to be used. The sac was separated and tied with catgut. The patient retched a little during the night and had occasional hiccough, feeble pulse, and dryish tongue, but these symptoms quickly yielded to whisky and strychnine. Flatus was passed per anum on the next day but the bowels were only moved by an aperient four days later. The wound was apparently healed on the fifth day when it was dressed and the sutures were removed, but when it was dressed again on the 24th a small subcutaneous abscess had formed and this was drained with gauze. Possibly the eucaine solution was not quite sterile, though her temperature was never above 98·8° F. By July 21st the wound was quite sound and a few days later the patient was up and about but, of course, wearing a truss.

Before, and for a few days after, the operation the condition of the patient was serious, the heart's action being feeble and irregular, and it is a question whether a general anæsthetic would not have added sufficient (drug) "shock" to have proved fatal.

St. George's-in-the-East Infirmary, E.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

WESTMINSTER HOSPITAL.

A CASE OF ŒSOPHAGOTOMY FOR THE REMOVAL OF A PORTION OF AN UPPER TOOTH-PLATE.

(Under the care of Mr. WALTER G. SPENCER.)

FOR the notes of the case we are indebted to Mr. G. Brittan Gill, house surgeon.

A female, aged 37 years, broke her upper tooth-plate but continued to make use of the two portions. On June 12th last, whilst at breakfast, the smaller fragment containing a bicuspid and two molars was carried into the pharynx. In trying to remove it the patient pushed it downwards out of reach. She was then seen by Dr. M. Sharman of Rickmansworth who made repeated attempts to extract the plate, in which he was assisted by Dr. E. A. Peters. The plate was several times grasped by forceps but could not be drawn upwards. For some days the patient refused but ultimately consented to go to hospital. Meanwhile she had marked dysphagia and pain in flexing the head but no dyspnœa. A skiagram showed the plate to be situated about the level of the seventh cervical and first dorsal vertebræ, a short distance below the cricoid cartilage.

On June 16th—i.e., on the fifth day from the accident—the plate was removed by Mr. W. G. Spencer, assisted by Mr. E. P. Paton, Dr. Sharman and Dr. Peters being present. The patient was anæsthetised without difficulty and then a fulness could be detected in the neck low down on the left side, but there was also a considerable enlargement of the thyroid gland. A No. 18 bougie was passed without meeting with any marked obstruction. An incision was made along the inner border of the left sterno-mastoid from the level of the thyroid cartilage for an inch

or so in front of the manubrium. The sterno-mastoid having been drawn outwards the jugular vein and carotid artery with the sterno-hyoid and sterno-thyroid muscles as well as the recurrent laryngeal nerve were retracted inwards. The œsophagus was thus exposed a short distance below the cricoid cartilage and the plate could be felt through the wall. The plate was easily extracted, the œsophageal wall proving friable from septic inflammation, and tearing a little beyond the place actually cut through. The wall would not hold sutures, so two drainage-tubes were placed with their ends close to the opening and the rest of the wound was filled with iodoform gauze. The patient was placed in bed without a pillow and with the foot of the bed raised. She had been very excited before the operation but after it she was most amenable. She was fed entirely by the rectum for the ensuing week, during which muco-pus escaped freely from the wound. On the fourth day there was found a tendency for the discharge to collect in the upper part of the wound, whilst all sign of inflammation spreading downwards was absent, therefore the patient's position was changed and her shoulders were well raised.

The pulse immediately after the operation was 130, on the next day it was 120, after which it subsided to the normal. The temperature on the first day reached 100° F. and the respirations were 28, after which there was no elevation. The patient's voice was hoarse for a few days and then it cleared. Some water given her to drink on the eighth day nearly all flowed out by the wound. On the tenth day egg with milk was for the most part swallowed. On the fifteenth day she could swallow minced meat. She went home on July 6th, little more than three weeks from the accident and able to take full diet, the wound being represented by a small patch of granulations without any leakage from the œsophagus.

Remarks by Mr. SPENCER.—Œsophagotomy for the removal of an impacted tooth-plate has been in the past a most dangerous operation. After the skilful removal of the plate patients have succumbed to septic inflammation spreading to the mediastina and the lungs. This has especially been the case when the superficial wound has been sewn up. Many such cases are easily relieved by extracting the plate by means of a horsehair probang, coin-catcher, or forceps. Here this proved impossible. Considerable fragments may pass and escape per anum. A remarkable specimen preserved in the Museum of the Royal College of Surgeons of England is depicted by Dr. F. S. Palmer in THE LANCET of Dec. 10th, 1881, p. 997. The plate was discharged about 17 hours after being pushed down the œsophagus. The only alternative line of treatment which suggests itself is the passage of a straight tube and the breaking up the fragment with a lithotrite. In this patient the cervical vertebræ projected forwards, so that even a soft bougie required the aid of the finger to pass, and thus no straight œsophagoscope could have been inserted. Moreover, on the fifth day of impaction the œsophageal wall was anticipated to be in the friable condition found at the operation. In operating the vessels were drawn inwards instead of outwards because the patient had a somewhat enlarged thyroid gland and numerous veins running between the lateral lobe and the jugular might otherwise have been met with. Probably the sympathetic nerve was irritated, hence the rapidity of the pulse after the operation. The patient's temporary hoarseness was doubtless the result of stretching the recurrent laryngeal nerve whilst drawing it aside.

The experience of Mr. H. T. Butlin in the removal of œsophageal pouches leads him to advise the application of sutures to the œsophagus only and to treat the rest of the wound by the open method. In the present instance the fact that the wound soon healed shows that the open method does not give rise to any marked delay.

SUSSEX COUNTY HOSPITAL.

A CASE OF FRACTURE OF THE BASE OF THE SKULL WITH EXTRADURAL HÆMORRHAGE CAUSING COMPRESSION; TREPHINING.

(Under the care of Mr. R. F. JOWERS.)

A CABDRIVER, aged 39 years, was admitted to the Sussex County Hospital on March 3rd, 1903, having had a "fit" and fallen on to the paving of his stable. He was said to be a heavy drinker and had been drinking that morning. He had had one fit previously about three months before admission. After the accident he walked to the hospital and while in the waiting-room is said to have had another fit. At any rate, he became unconscious and slipped from his chair on to the floor, in which position he was first seen by the assistant house surgeon who noticed that the pupils were unequal (the left being the larger) and that there was bleeding from the right ear. This was dressed and the patient was sent into the ward. When seen by Mr. Jowers about two hours later he was lying quietly in bed in a semi-conscious condition. He was aware of being spoken to but gave incoherent muttering answers and resisted any attempt to see his pupils. No fracture of the vault could be detected. His temperature was 99·2° F. and his pulse was 60. The right ear was ordered to be syringed twice daily and an emulsion of iodoform dropped in. On the 4th the patient had had a restless night; he was delirious, tremulous, and picked at the bedclothes. His condition suggested delirium tremens or some form of cerebral irritation. He vigorously resisted any attempt to examine his pupils. His temperature was 99·2° and his pulse was 74. On the 5th he had another restless night but was conscious in the morning. He talked quite sensibly and said that he felt better. His temperature was 98·2° and his pulse was 62. At 2 P.M. when seen by Mr. Jowers he was quite unconscious. There was well-marked rigidity of the left arm and leg. The right pupil was widely dilated and inactive and there was ptosis of the right eyelid. The knee-jerks were exaggerated and Babinsky's sign was present. The temperature had risen to 100·8 and the pulse to 110. A consultation was held with Mr. W. Furner and Mr. T. J. Verrall, who were in the ward at the moment, and it was decided that if no improvement took place in a few hours he should be operated upon. At 5 P.M. the rigidity had passed off and had been replaced by paralysis of the left arm and leg. He was sweating profusely and breathing stertorously. The temperature had risen still further and at 6 P.M. had reached 103°.

The theatre being in use at the time operation was postponed till 9 P.M., when, the head having been shaved, Mr. Jowers turned down a semilunar flap and trephined over the middle meningeal artery, the opening being enlarged with bone forceps. A large and thick extradural clot was exposed extending backwards further than the finger could reach and downwards towards the base of the skull. After removal of the clot with the finger and a scoop a large cavity was left between the skull and the dura mater, the brain showing no tendency to expand while the patient was on the table. The cavity was gently irrigated with saline solution and the flap was sutured, a drainage-tube being brought out at each angle of the wound. With the exception of the vessels in the flap and a small one in the bone which was stopped with Horsley's wax no bleeding was seen. The patient had a good night and was quite conscious the next morning. He could move his left arm and leg freely. The right pupil, though less dilated, still remained larger than the left, but now reacted to light. There were some ptosis and paresis of the inferior rectus. This and the other signs of paralysis of the third nerve entirely passed off in the course of the next few days. He was very deaf in the right ear and could only hear a watch ticking on contact. A slight discharge of pus from one edge of the flap took place ten days later, but with this exception his recovery was uninterrupted. A few days after operation the right ear was examined with the speculum which it had been impossible to do before. There was a small blood-clot adherent to the membrana tympani and partially obscuring it. By the time he left the hospital on April 29th his hearing had considerably improved and on examination no opening could be seen in the membrana tympani. He has since been seen driving his cab.

Remarks by Mr. JOWERS.—The difficulty at the time was to explain the onset of compression symptoms some 50 hours after the accident. It subsequently transpired that during the night previous to operation he struggled violently with the attendant in an endeavour to get out of bed. The probability is that a hæmorrhage which had taken place in connexion with the fracture of the base and had become arrested was re-started by his struggle and extended upwards till the whole hemisphere was compressed. The exact source of the bleeding is uncertain. Probably the fracture passed through the foramen spinosum, tearing the middle meningeal artery. From the trephine opening the base could not be thoroughly seen and as no bleeding occurred there was no object in enlarging the opening so as to search for the

fracture. In the few cases of compression from hæmorrhage I have met with the symptoms have been marked within a few hours of the accident. As the fact of his struggle with the attendant was not ascertained until the day after operation the explanation of the delayed symptoms due to compression was not apparent. The outlook in a heavy drinker with a fractured base was not encouraging, but operation seemed to offer the only chance of life.

Reviews and Notices of Books.

Social Origins. By ANDREW LANG, M.A., LL.D. *Primal Law.* By J. J. ATKINSON. London, New York, and Bombay: Longmans, Green, and Co. 1903. Pp. xi., 311. Price 10*s.* 6*d.* net.

THIS volume contains two distinct books which from a literary point of view might advantageously have been published separately. The introduction is written by Mr. Andrew Lang in his usual pleasing and playful manner which serves equally well to point the moral of a fairy tale or to illuminate the humour of an abstruse point of scientific interest. The manuscript of "Primal Law" was sent to Mr. Lang at the dying request of his cousin, James Jasper Atkinson, who had spent the greater part of his life in the New Caledonian Archipelago and who as a result of his observations discovered what he conceived to be the "primal law" which was the origin of morality as regards the family. Mr. Lang has very judiciously given to Mr. Atkinson's manuscript the last cares which, it is much to be regretted, the author himself was unable to carry out; he has also taken the opportunity to review the present state of the discussion as to the beginnings of the rules relating to marriages amongst savages. In so doing he occupies the greater part of the volume and what he says should prove of interest to all such as do not wish to take the subject too seriously, but desire rather to know something about the questions in dispute amongst serious anthropologists. To the German student an allusion, and one without an accurate reference, to the work of Thomas Haynes Bailey may prove a little embarrassing, but as a general rule exact references are given to the authorities quoted.

Mr. Atkinson's work is devoted to an explanation of his theory of the development of the social conditions of man in regard to family life, and he attempts to trace this development back to the condition of man when he was still in the brutal stage. From this it may be easily judged that the work is an ambitious one and when it is mentioned that the question is dealt with in eight short chapters and occupies little more than 80 pages it need hardly be added that the argument is presented in a somewhat condensed form. Mr. Atkinson held the Darwinian faith that "man is certainly descended from some ape-like creature" and, to use his own words, from this hypothesis he proceeds to treat of a "conjectural series of events in the Ascent of Man, events which involve a state of the intersexual relationships amidst our primitive ancestors identical with that portrayed in the 'Descent of Man.'" The essay in the course of the argument tends to confirm Darwin's ideas as to unity of origin. Mr. Atkinson suggests that the male ape-like ancestor of man was an unsocial creature largely imbued with fierce sexual jealousy—a solitary being save for association with one or more wives and female children. The young males of his and of similar families were rigidly exiled and these outcasts formed bands which ultimately became sufficiently strong to wrench both wives and lives from the paternal tyrants. There was ceaseless war between the patriarchs and the young males, for there was no special pairing season as in the case of the lower animals. As time went on it is assumed that the longevity of the race increased and this change entailed a more prolonged period of infancy, and then at length the dawn of brighter social conditions was brought about through maternal love. However caused, separation between the mother and her son was far more severely felt than it was by any other animal, and at each renewed banishment her feelings were increasingly outraged, her attempts to retain her youngest son grew stronger, and meanwhile the patriarchal fire of desire became quenched and his numerous daughters overtaxed his virile powers. In such circumstances a young male may have been permitted to live in his father's domestic circle, for at last, "given some such rather exceptional situation where an opportunity in superlative mother-love wrested with a for once satiated paternal appetite in desire, we may here discern a possible key to the sociological problem which occupies us and which consisted in a conjunction within one group of two adult males."

It is assumed that the junior male would be allowed to remain only on condition that he respected the marital privileges of the senior; hence he would have to seek his mate from without the band; and the conditions in which he lived with the female members of his own family gave origin to the curious etiquette of "avoidances" which is still to be found amongst some savage races and the history of which has been such a puzzle to anthropologists. The later chapters of Mr. Atkinson's essay are mainly devoted to this subject, and certainly if his hypothesis be accepted it may serve to unravel some tangled problems. The work is one which will undoubtedly greatly stimulate anthropological research and the central idea which it contains will be tested in the light of new researches. The author wrote from a place far away from books; his theory was the outcome of patient and prolonged work and the essay is vigorous and virile. It may indeed prove caviare to the general reader and even repugnant to those who, like the late Lord Beaconsfield, are "on the side of the angels"; nor will it commend itself to those who are not interested in, or are entirely ignorant of, the manners and habits of savage races. A preliminary acquaintance with Westermarck's history of marriage[1] and Spencer and Gillen's book on the Australian natives[2] will add to the interest of Mr. Atkinson's essay, and that Crawley's "Mystic Rose"[3] and the parts of Frazer' "Golden Bough"[4] which deal with marriage rites and customs include details instructive in this connexion. Mr. Lang tells us in his preface that he is indebted in various ways for assistance to, amongst other people, Mr. Crawley, who not only "read the book, or most of it," but also "collaborated most efficiently in the way of suggesting objections."

The Diagnosis and Modern Treatment of Pulmonary Consumption, with special reference to the Early Recognition and the Permanent Arrest of the Disease. By ARTHUR C. LATHAM, M.A., M.D. Oxon., M.A. Cantab., Assistant Physician and Lecturer in Practical Medicine at St. George's Hospital, Assistant Physician at the Brompton Hospital for Consumption and Diseases of the Chest. London: Baillière, Tindall, and Cox. 1903. Pp. 215. Price 5*s.*

THIS volume contains a series of articles which have appeared in the medical press during the last few years. Dr. Latham has published them in a collected form in the

[1] The History of Human Marriage. By Edward Westermarck, Lecturer on Sociology at the University of Finland, Helsingfors. London: Macmillan. 1891.

[2] The Native Tribes of Central Australia. By Baldwin Spencer, M.A., and F. J. Gillen, Special Magistrate and Sub-protector of the Aborigines, Alice Springs, South Australia. London: Macmillan. 1899.

[3] The Mystic Rose: A Study of Primitive Marriage. By Ernest Crawley, M.A. London: Macmillan. 1902.

[4] The Golden Bough: A Study in Magic and Religion. By J. G. Frazer, D.C.L., LL.D., Litt. D. Second edition. London: Macmillan. 1900.

hope that they may prove of service as a practical guide to the diagnosis and treatment of pulmonary tuberculosis.

The first three chapters are concerned with the diagnosis of the various forms of pulmonary tuberculosis, acute and chronic. The pages devoted to this subject will well repay perusal. Since the discovery of the tubercle bacillus the task of making a positive diagnosis of tuberculous disease of the lungs has been rendered far more easy, but many cases still present themselves with a history strongly suggestive of tuberculosis in which expectoration is either absent or bacteriological examination yields a negative result. Dr. Latham enters very fully into a description of the physical signs and symptoms which help the physician in arriving at a diagnosis. His remarks on the use of tuberculin for diagnostic purposes are interesting. When the disease is so slight that a diagnosis cannot be made by means of the physical signs, and no tubercle bacilli can be detected in the sputum, he believes that one, two, or three small injections of Koch's old tuberculin may be employed without the slightest risk. He places great reliance on this test although he adduces evidence to show that in certain cases a reaction may be obtained when tuberculosis is absent, but such instances must be very rare, as Professor Koch has stated that after an experience of some 3000 cases he considers the tuberculin test to be almost absolute.

Two chapters are devoted to the method of treatment as carried out in a sanatorium. Dr. Latham's views on this subject were set forth at length in the essay which obtained the first prize in the competition on the erection of the King's Sanatorium and which was published in THE LANCET of Jan. 3rd of this year. An interesting summary of other forms of treatment will be found in Chapter VII. The use of creasote, formic aldehyde, tuberculin, and other drugs is criticised, but Dr. Latham evidently does not consider them to be of great value, especially when compared with the sanatorium treatment. The chapter on the Treatment of Special Symptoms contains numerous valuable hints as to the treatment of cough, pain, night sweats, hæmoptysis, and other symptoms which so frequently arise in patients suffering from pulmonary tuberculosis. The prescriptions he suggests will be found useful and trustworthy.

The last chapter in the book is headed "Special Considerations" and contains many remarks on matters connected with tuberculosis, a few of which are contrary to the views held by some of the leading authorities. Dr. Latham, however, has the courage of his convictions and has acted quite rightly in thus plainly stating his opinions. For instance, he insists that as far as possible all patients should be treated under the same climatic conditions as those which they are likely to experience in their subsequent life. We consider this to be perfectly sound advice. It is true that patients with very limited disease do well at high altitudes and on returning to ordinary conditions suffer no harm, but such patients make equally good progress in the sanatoriums in this country. Dr. Latham likewise throws doubts on the hereditary nature of the disease. He quotes the statistics of Dr. J. Edward Squire which show that the difference in the incidence of the disease in the offspring of tuberculous and non-tuberculous parents is very small. Dr. Latham remarks that these figures are remarkable, as the children of tuberculous parents who are the victims of active disease must in most cases, unless the necessary precautions are taken, be more exposed to the risk of infection. The statistics would appear to suggest, he says, that the children of tuberculous parents possess some natural immunity to the disease, for otherwise the percentage of children who develop tuberculosis should be much greater when the parents suffer from the disease than when they do not. As far as we are aware this is a perfectly original suggestion. It is one, however, that is worthy of careful consideration, although it is apparently contrary to views hitherto commonly held.

A System of Physiologic Therapeutics. Edited by SOLOMON SOLIS COHEN, A.M., M.D., Senior Assistant Professor of Clinical Medicine in Jefferson Medical College, Philadelphia; Physician to the Jefferson Medical College Hospital. Vol. V., Prophylaxis; Personal Hygiene; Civic Hygiene; Care of the Sick. Illustrated. London: Rebman, Limited. 1903. Pp. 539. Price 12*s.* 6*d.*

THIS volume contains an epitome of what is essentially the natural history of medicine, including excellent contributions on matters concerning the origin, dissemination, and prevention of disease. The editor has taken a very wide view of etiology; he rightly thinks that in a consideration of the cause of disease the psychic as well as the physical characteristics of men must be taken into account, that due attention must be paid to heredity as well as to the constitution of the individual, and likewise that notice must be taken of the intrinsic failures and perversions as well as environmental factors that may disturb mind and body. He further maintains that the artificial conditions of civilisation, the diversity, complexity, and strenuosity of the activities of modern life, and the reciprocal influences of individuals upon communities and of communities upon individuals render it necessary, alike in the study of personal hygiene and of public health, to consider, at least by allusion, many aspects of sociology. The purview so indicated involves questions of economics, of engineering, of manufactures, of architecture, of pedagogics, of commercial intercourse, of taxation, and of municipal government. It will be thus seen that Dr. Cohen has set himself a large task if his ideas are to be carried out in full. A perusal of this book will show that the material collected together is most interesting and varied and that he may be congratulated, as far as the fifth volume is concerned, on the success of his endeavours.

The work is divided into three parts. Part I. is headed "The Origin and Prevention of Disease" and is written by Dr. J. McFarland, professor of pathology and bacteriology in the Medico-Chirurgical College, Philadelphia, and Dr. W. Wayne Babcock, lecturer on pathology and bacteriology in the Medico-Chirurgical College. A vast number of topics are discussed in connexion with the etiology and prophylaxis of disease and its diffusion. Especially interesting are the remarks on the methods of transmission of disease by animals and the modes of parasitic invasion, action, and elimination. The prophylaxis of the infectious fevers naturally holds a prominent place, and the introduction of summaries in tabular form makes the more important points easily accessible for reference.

Part II. is devoted to Civic Hygiene and is written by Dr. H. Leffmann, professor of chemistry and toxicology in the Women's Medical College of Pennsylvania. In this section chapters will be found on Municipal Health Organisation, Food- and Water-supply, and Disposal of Waste.

Part III. is entitled "Domestic and Personal Hygiene; Nursing and Care of the Sick-room." The author is Dr. Albert Abrams, consulting physician to the Mount Zion Hospital and to the French Hospital, San Francisco. Dr. Abrams enters fully into a consideration of the hygiene of dwellings, of the school, and of travel. A chapter is devoted to Personal Hygiene, another to Hygiene of Special Periods, and a third to Hygiene of the Diatheses. A carefully prepared index adds to the value of the publication as a work of reference.

LIBRARY TABLE.

Practical Pharmacy and Prescribing. By JAMES CALVERT, B.Sc., M.D. Lond. London: H. K. Lewis. 1903. Pp. 110 and interleaved. Price 4*s.* 6*d.*—This is a second edition of

an excellent little notebook which is in use by the students of medicine at St. Bartholomew's Hospital. It is divided into two parts, the first part dealing with practical pharmacy and the second part with prescribing. The first part, as Dr. Calvert acknowledges, was written upon a basis given to him by Sir T. Lauder Brunton, to whom he acted as demonstrator in pharmacology at St. Bartholomew's Hospital. In the second part, dealing with prescriptions and incompatibles, we have the author's attempt to interest the students just before they enter upon their practical work in the wards, and while their chemistry is still fresh in their minds, in the importance of practical therapeutics so that "when they pass into practice they may not be absolutely chained to the formulæ of the hospital pharmacopœia or of the manufacturing chemist." The book is interleaved throughout that the writer may record his own experiences and make memoranda of successful preparations.

A Model Sanatorium for Tuberculosis. By ALEXANDER G. R. FOULERTON, F.R.C.S. Eng., D.P.H. Cantab., and R. LANGTON COLE, F.R.I.B.A. London: Rebman, Limited. 1903. Pp. 31.—This small book, being an essay submitted in the recent competition for the King's Sanatorium Prize, sets out in very clear language, with ground plans, sections of elevations and measurements, a model sanatorium for the treatment of pulmonary tuberculosis. The authors adopt the pavilion system as one combining as far as possible the separate cottage system with facilities for careful supervision. Where it can be managed the aggregation of patients under cover indoors is avoided, although a large winter garden provides opportunity for a certain amount of recreation in common. The estimated cost of erecting the sanatorium is £115,000 and many features of the building are common to the prize plans which we have already published in our columns.

A Manual of Toxicology. By ALBERT H. BRUNDAGE, A.M., M.D., Phar. D., Professor of Toxicology, Physiology, and Hygiene in the Brooklyn College of Pharmacy. Second edition. New York: The Henry Harrison Company. London: Baillière, Tindall, and Cox. 1902. Pp. 375. Price 6s.—This volume is intended to be "a concise presentation of the principal facts relating to poisons, with detailed directions for the treatment of poisoning." The author has succeeded in producing a work which will serve as a ready means of review of the salient points of toxicology and as a convenient book for reference in cases of emergency. The first part deals with general considerations, such as the classification of poisons and the methods of procedure to be adopted when symptoms and circumstances indicate that a poison has been taken. In the second part the poisons are considered seriatim, the various drugs being taken in alphabetical order, for convenience of reference a good plan. The fatal dose is first given and it is understood that the doses are for adults and, of course, are subject to modification according to the circumstances of the case, such as whether the drug has been taken on a full or an empty stomach. The symptoms are then described, the more important being printed in bold-faced type; the same plan of alteration of type is also adopted in the paragraphs on treatment, so that the main points can be seen at a glance. Each poison is described briefly though at sufficient length for all purposes desired by the practitioner to whom the work would really be useful in an emergency. The book is not one which we should recommend to students for examination purposes, for too much is included. The author has spared no pains in rendering his book as complete as possible and has included not only the substances which are usually recognised as poisonous but also those which only occasionally produce alarming symptoms. The tests for poisons are duly given and also the outline of procedure in searching for poisons is accurately indicated. The post-mortem appearances are placed towards the end of the book. We think a more convenient place would have been in the second part of the book, where the symptoms and treatment in connexion with the respective poisons are described.

Medicine for the Mind. London: St. Martin's Press. Pp. 138. Price 2s. net.—This is a funny little book of quotations in which the author attempts to tabulate the defects of the mind and to supply a quotation from a well-known author in remedy of each defect. A book with such a scheme is foredoomed to failure. As a collection of quotations it has some merit, but not as an adjuvant in mental therapeutics.

Hindustani Grammar Self-Taught. By Captain C. A. THIMM. London: Marlborough and Co. 1902. Pp. 118. Price 2s.—This book is a sequel to the author's "Hindustani Self-Taught" which was published a few years ago and contains the essential points and rules of grammar with notes to illustrate the construction of the language that will be needed by those who may require to pass Government examinations. We observe that the dictionary of Hindustani every-day words which is appended to the grammar contains no words of medical significance but the colloquial vocabulary is profuse. Urdu is the language most widely spoken in India and a mere smattering of it is of service to all whose business takes them to our Eastern empire. Many of our countrymen who pass long periods of their lives, whether in political, military, or civilian employ, in our Indian empire do contrive to acquire a rudimentary acquaintance with Hindustani and to such Captain Thimm's book will be of practical use.

The Rearing of Infants. By ROBERT GUY KELLETT, L.R.C.P., L.R.C.S. Irel. London: A. H. Jones. 1903. Pp. 40. Price 6d. net.—This little pamphlet is addressed to the public and is justified by the sacrifice of infant life which is revealed by the annual reports of the Registrar-General. "There are few girls," says the author, "..... and still fewer women who do not think that by virtue of some instinct of their sex, and without any special thought or training they are quite capable of bringing up an infant." This is a melancholy truth and any book that can impress upon the public that it is the duty of a young wife about to become a mother to learn something of the responsibilities so soon to be thrust upon her is fulfilling a good object. Mr. Kellett's little work is quite elementary, remarkably simple in language, and, as far as it goes, it is sound. It is not likely to prevent cases of serious illness from obtaining medical notice.

The Law of Mental Medicine. By THOMAS J. HUDSON, Ph.D., LL.D. London: G. P. Putnam's Sons. Chicago: A. C. McClurg and Co. 1903. Pp. 231. Price 7s. 6d.—This book is a correlation of the facts of psychology and histology in their relation to mental therapeutics and aims at placing mental therapeutics on a firm scientific basis. The object of the book is therefore excellent, but when we look closely into it we find it full of suppositions upon the physical mechanism through which mental health is affected; animal magnetism (whatever that may signify), hypnotism, and thought-transference are treated as though more was proven concerning them than any scientific thinker can allow, and generally the book, although suggestive, leaves the impression of being speculative and unsound.

The Ventilation, Heating, and Management of Churches and Public Buildings. By J. W. THOMAS, F.I.C., F.C.S. London, New York, and Bombay: Longmans, Green, and Co. 1903. Pp. 140. Price 2s. 6d.—In this little book a great deal of information is compressed into a very small compass, for within its modest number of pages we find discussed fairly thoroughly the physical laws bearing upon th

ventilation of buildings. The book is well illustrated, the illustrations showing the result of many experiments on wind action and intermittent air currents. Ventilation is, of course, a subject on which much remains to be said, for upon many of the most important points comprised under the word differences of opinion exist among scientific men; but Mr. Thomas deals with the matter in a practical manner and his book should prove of value to all who are in any way concerned with the question of house construction. The chapters on How Ventilation can be Improved and the Ventilation of New Buildings will in particular repay perusal. The last chapter contains instructions for the caretaker, but we think it is asking too much of the average porter to expect him to take intelligent notice of prevailing winds and temperature.

JOURNALS AND REVIEWS.

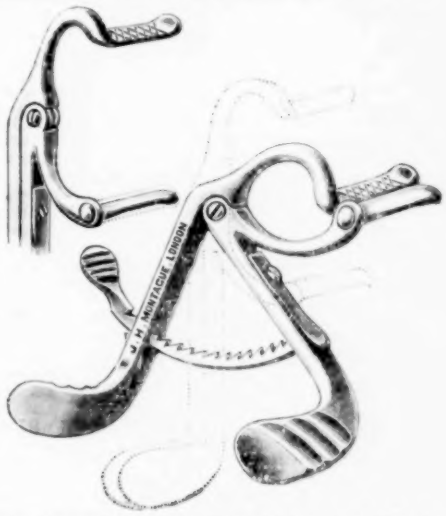
Journal of the Royal Army Medical Corps. No. 2, August, 1903. London: John Bale, Sons, and Danielsson, Limited. Price 2*s.* net.—The second number of this new medical journal fulfils the expectations realised by the first issue and Major R. H. Firth, R.A.M.C., is to be congratulated upon the success under his editorship. The first article, "Notes on Surgical Experiences of the Boer War," by Surgeon-General W. F. Stevenson, C.B., R.A.M.C., discusses the "humane" and "merciful" effects of the small-bore rifle bullet, the conclusion of the author being that a little can be said in favour of the "humanity" of the modern bullet, but only a very little. Lieutenant F. Bruce, R.A.M.C., contributes a paper entitled "Experiences of X-Ray Work during the Siege of Ladysmith." There are notes on a case of Spear-wound of the Heart, with Recovery, by the late Captain T. McArdle, R.A.M.C., and on two cases of Perforating Gunshot Wound of the Skull, by Lieutenant-Colonel S. F. Lougheed, C.M.G., R.A.M.C. The illustrations to these papers are excellently reproduced. A very interesting article is a Historical Retrospect of the Army Surgeon in Britain prior to the Sixteenth Century, in which the author, Captain H. A. L. Howell, R.A.M.C., acknowledges indebtedness to the late Sir James Simpson for the archæological researches relating to the surgeon in the Roman armies in Britain.

The Practitioner.—The issue of this magazine for August contains a paper, "The Treatment of Gout in Carlsbad," a comprehensive contribution from Dr. B. London, which includes a fairly full discussion of the much vexed etiological and pathological questions surrounding the subject of *arthritisme*. Dr. Leonard Williams contributes an article upon Peripheral Neuritis of the Alcoholic Type, containing the accounts of two cases which are interesting and important mainly from the apparent certainty with which special etiological factors could be excluded. Dr. Williams regards no explanation of the facts of peripheral neuritis as satisfactory which fails to include not only both alcohol and arsenic but also "some other factor or factors of which only this can be said, that they bear no ascertainable relationship either to the one or to the other." Mr. Thomas B. Futcher supplies some careful observations on points of metabolism in gout with special reference to the relationship between the uric acid and the phosphoric acid eliminations. These are based on observations made for Dr. Osler. Dr. S. Vere Pearson and Mr. J. P. L. Mummery, in a very practical paper upon the After-treatment of Empyema in Infants, lay stress on the importance of early removal of the drainage-tube and on the evil of washing out the cavity with antiseptics. Importance is also attached to careful observation of the physical signs upon the side of the disease after the operation and especially to attention to general symptoms and careful treatment of the child's general condition.

New Inventions.

A NEW GAG.

THE instrument shown in the illustration possesses some qualities which render it peculiarly suitable for certain anæsthetic emergencies. Operations on the ear and brain necessitate a fixed position of the head which precludes the easy introduction of an ordinary gag without either disturbing the operator or changing the position of the head itself. This is clearly seen in the mastoid operation. With the gag now described the handle lies in the same vertical plane as the blades when the latter are open and in position against the upper and lower jaws. The blades when closed



are practically on the same horizontal level, and are, therefore, easily inserted between the teeth. There are two ways of using the gag—namely (1) with the handle downwards as shown in the illustration; and (2) with the handle upwards on the cheek, best seen in the figure by turning it upside down. The latter position will be found the more convenient of the two for opening the mouth during the progress of an operation as no lateral movement of the head or face need be caused. The anæsthetist standing or sitting in front of the patient can easily place the instrument in position and swab out the throat or seize the tongue, as the case may be, without the least trouble or disturbance. I have used this gag for keeping the mouth open and fixed in many nose and throat operations, and I can strongly recommend it for rapidity of introduction and strength of grip as well as for simplicity of action and general utility in this class of cases. Originally devised for use during mastoid operations, I have found the gag extremely serviceable in adenoid and tonsil cases. The linear arrangement of the closed blades renders introduction easy, and there is a large space available to the operator when the jaws are fixed, owing to the wide outward sweep of the arms. I am indebted to Mr. J. H. Montague, 101, New Bond-street, London, W., for much assistance in working out my ideas.

A. DE PRENDERVILLE,
Anæsthetist to the London Throat Hospital, W.
Weymouth-street, W.

MEDICINE AND THE LAW.

Medical Men and Death Certification.

A SINGULAR charge of petty fraud at the recent Glamorgan assizes drew from the grand jury and from Mr. Justice Channell, before whom the prisoner pleaded guilty, certain strictures upon the conduct of Mr. H. E. Charles, a medical man practising at Swansea, which the medical profession will regard as unjust and undeserved. In April last

Mr. Charles had brought to him a child suffering from measles and chest complications. On the following day the mother came again and informed him that the child was dead and as this in no way surprised him at the mother's request he gave her the usual certificate, assigning as the cause of death the conditions which he had observed. Medical men who have had experience of general practice will see nothing lax or improper in Mr. Charles's conduct, nor will they find anything in the law ordering any different course to be taken. As a matter of fact, however, the child was alive and the mother had represented it to be dead and had obtained the certificate in order to defraud an insurance company of £3 10s. This sum she was charged with obtaining by false pretences and it was the fact that Mr. Charles had given a certificate without seeing the dead body which gave occasion for the observations of the judge and for a presentment by the grand jury, the members of which no doubt took their cue from observations made by his lordship in charging them. Mr. Justice Channell, it is true, called Mr. Charles into the witness-box and to some extent permitted him to explain; but he did not apparently accept his explanation or appreciate the fact that what had occurred was due to the provisions of the law and to the practice which has arisen under it. The law relating to death registration and burial is far from perfect and in the public interest alterations might be made in it. If, however, such alterations were to involve the inspection of every dead body by a medical man before the fact of death was established such inspection would have to be made a matter of legal obligation for which the relatives would be compelled to afford facilities and for making which the medical man would have to be remunerated at the public expense. At present a medical practitioner insisting upon seeing the body after being told by a relative whom he has no reason to disbelieve that the patient is dead in many instances would incur odium and would give unnecessary pain. The question of payment and of waste of time also would arise, particularly in such cases as that under discussion. Little or nothing, however, would be achieved towards protecting the public, because in the absence of any compulsorily uniform practice persons meditating fraud would select a medical adviser who would rely upon the information given by them. In the case in question Mr. Charles might have used in his certificate the phrase "as I am informed," and no doubt medical men, to whose notice his unpleasant experience is brought, will in future be careful to do this where the body has not been seen by them after death. On the other hand Mr. Charles might, by insisting upon seeing the body, have prevented a fraud upon an insurance company, but the protection of possibly interested commercial bodies, well capable of protecting themselves, forms no part of the medical man's already burdensome public duties. A certain want of lucidity in the dicta of Mr. Justice Channell, as reported in the local press, makes it difficult to say the precise extent of the precautions which he would impose upon the medical profession. The mere inspection of the dead body would establish the fact of death and so prevent a fraud such as that exposed at the Glamorgan assizes, but it could not insure the detection and punishment of cunningly carried out crime of another class. The following observations, however, are ascribed to the learned judge: "Oh, dear me, you have nothing to do but hold your hand and give it to the coroner." "If you have seen the child once and are told that it was subsequently dead I don't think you are justified in certifying it died from the disease of which you happen to know it is suffering. A little more caution is necessary." It is not clear from this whether Mr. Justice Channell thought that Mr. Charles might have left the case in question to the coroner for investigation or that the mere sight of the dead body would have put him in the right. Any such examination of the body as would with any certainty detect crime, should any crime accelerating death have been committed, would be entirely beyond the power of the medical man upon such an occasion, and again it must be pointed out that the medical practitioner is not, and should not be, a detective. In our view, if the law is in any respect unsatisfactory it is within the scope of the duties of judge or grand jury to aid in bringing about amendment by calling attention to defects. To censure an honourable man who has not infringed the law because in a particular instance the law has not proved effective to prevent a petty crime being perpetrated by an unscrupulous person is not likely to increase the respect with which the administration of justice should be regarded.

THE BRITISH MEDICAL ASSOCIATION

MEETING AT SWANSEA.

THE SECTIONS.

SURGERY.

FRIDAY, JULY 31ST.

Mr. SINCLAIR WHITE (Sheffield) read a paper on

Two Cases of Ascites secondary to Alcoholic Hepatitis treated successfully by Operation.

In the first case a woman, aged 38 years, who had been alcoholic for four years, had much ascites. She had been tapped twice and her liver was hard and nodular. The abdomen was opened and the omentum was found forming a hard irregular mass. The upper surface of the liver was rubbed with gauze and the anterior border was stitched to the diaphragm and the anterior abdominal wall was stitched to the great omentum. A drainage-tube was inserted just above the pubes. The operation caused a great deal of shock but the patient soon rallied and was now quite well. In the second case a woman, aged 34 years, had been in the habit of taking much alcohol. She had been tapped three times. The same operation was performed. The drainage-tube was kept in for four weeks and the patient did not begin to improve for two months, but she was now well. As a result of this operation new venous channels formed in the adhesions and conveyed the portal blood into the systemic veins. Mr. White thought that the nutritian of the hepatic cells was also improved. Up to the present more than 100 cases of this operation had been recorded.

Mr. H. BETHAM ROBINSON (London) read a paper on

Separation of the Acetabular Epiphysis of the Femur.

He thought it probable that many cases were mistaken for hip disease. The centre in the head appeared at the age of one year and the epiphysis united with the neck in the twentieth year, so that between those ages separation of the epiphysis might occur. In one case a lad, aged 19 years, fell on to his left hip and he limped for three months and when examined the tip of the great trochanter was found to be half an inch above Nélaton's line. The joint was opened and the separated epiphysis was removed. After the operation the joint was kept at rest and later massage was employed, but no weight was allowed to bear on the limb until six months after the operation. In another case a lad, aged 17 years, fell and at first there seemed to be no change as regards Nélaton's line, but later the tip of the great trochanter was half an inch above Nelaton's line. There was only a slight range of movement. When the joint was opened the epiphysis was found to be separated and rotated forwards. In a typical case the limb was everted but there was not the rigidity of hip-joint disease. The gluteal fold was present but raised. The condition was probably not rare but very few cases had been published. Mr. Robinson was inclined to suggest that the primary change was similar to that giving rise to the coxa vara of adolescents. Probably many cases were looked upon as hip disease. The best treatment was to remove the separated epiphysis.

Mr. WILLIAM SHEEN (Cardiff) read a paper on

A Case of Operative Treatment for Cirrhosis of the Liver

The patient was a sergeant-instructor in the army; he had had symptoms of portal obstruction for about a year and had been tapped four times. The abdomen was opened and the great omentum was found to be adherent to the peritoneum of the anterior abdominal wall. The convex surfaces of the liver and spleen were rubbed with gauze and a drainage-tube was inserted above the pubes. The abdomen was firmly strapped with broad bands. The man had fully recovered and had had no return of the ascites. Mr. Sheen considered that the continuous drainage and the firm strapping were the essentials of the operation.

Mr. R. W. MURRAY (Liverpool) read a paper on

The Ultimate Results in a Series of 88 Cases of Fracture of the Tibia and Fibula.

The paper was accompanied by a table of all the cases with details of each case. He remarked that most surgeons seemed to be satisfied with the results, but his personal examination of a series of cases made him think that the

results were not good. He found that the direction of the fracture had much influence on the time during which the patient could not work. If the fracture were transverse on an average three and a half to four months elapsed before the utility of the limb was completely restored, but if the fracture were oblique on an average seven months elapsed before the patient could do his ordinary work. One cause of this long duration of uselessness of the limb was, in Mr. Murray's opinion, the uncomfortableness of an ordinary back splint. When the fracture was oblique the limb rotated outwards even though the foot was fixed. He showed a form of splint which was the most useful. The foot was held at an angle greater than a right angle and the foot was inclined outwards. This was the true natural position of rest. The chief obstacles to "setting" a fracture were haemorrhage into, and inflammation of, the soft parts and piercing of fasciæ by the sharp ends of the bone. In many cases operative treatment was desirable, especially if the fracture was in the lower third of the limb and if a skiagram showed that less than two-thirds of the fractured surfaces were in contact. In Pott's fracture the prognosis was not so good as when both bones were broken. In seven out of 31 cases utility of the limb was not fully restored.

Mr. BETHAM ROBINSON mentioned that plaster-of-Paris, as used at St. Thomas's Hospital, completely prevented displacement.

Mr. REGINALD HARRISON (London) had found that division of the tendo Achillis was very useful in obtaining correct apposition of the fragments.

Mr. C. P. CHILDE (Southsea) considered that in all fractures of the leg the knees should be fixed.

Mr. A. H. TUBBY (London) was of opinion that if by the fourth day all ordinary means had failed to obtain a good position of the fragments it was best to cut down on the fractured ends and to fix the bones together by some mechanical means.

Mr. R. H. ANGLIN WHITELOCKE (Oxford) was inclined to think that the interposition of muscle or fascia was a common cause of difficulty in obtaining correct apposition.

Dr. ALFRED SHEEN (Cardiff) had used plaster-of-Paris bandages extensively and was very satisfied with them. One great advantage was that the patient, if there was no swelling, need not be detained in the hospital for more than a day or two.

Mr. JORDAN LLOYD (Birmingham) said that surgeons were apt to neglect such simple injuries as fractures and to leave them to the house surgeons. He thought that fractures were treated now worse than they ever were treated.

Mr. MURRAY, in reply, said that at the present time a capable surgeon need not fear making a simple fracture compound and therefore operation in suitable cases was clearly indicated.

Mr. P. J. FREYER (London) read a paper on

A Further Series of 32 Cases of Total Extirpation of the Prostate for Radical Cure of Enlargement of that Organ.

A year ago at the Manchester meeting of the British Medical Association Mr. Freyer gave details of his first series of 21 cases of total extirpation of the prostate. He now brought forward a further series of 32 cases of the operation performed by him during the year that had elapsed since then and showed a large number of prostates which had been removed. The first 24 of this second series had already been described in various lectures and papers and so he confined his account to the remaining eight cases. In one case, that of a man aged 81 years, prostatic symptoms had lasted ten years and three years ago vasectomy had been performed by another surgeon without benefit. The prostate was removed entire suprapubically; the patient began to pass urine naturally one month later and was now in excellent health. In another case, that of a patient aged 62 years, a "middle lobe" as large as a Tangerine orange had been removed by another surgeon but a permanent suprapubic fistula remained. Mr. Freyer removed the prostate suprapubically and the patient made a good recovery and could pass and retain his urine naturally. In a third case, that of a patient aged 74 years, there had been retention on several occasions. The operation was a very rapid one, only two minutes elapsing from the commencement of the suprapubic incision to the complete removal of the prostate. Mr. Freyer had performed the operation in 53 cases, the ages varying from 57 to 81 years. All the patients were in broken health and many had severe complications such as cystitis, pyelitis, and diabetes. Excluding two cases still under treatment there remained 51 cases and of these 46 were successful both immediately and remotely, the patients being able to retain and to pass their urine naturally. One died suddenly from heat-stroke on the tenth day, two died from acute mania after the wounds had practically healed, one died from coma due to retention of morbid products in his urine which had set in before the operation, and one died from pneumonia seven days after the operation. Even counting all these five deaths which occurred in connexion with, though they were not due to, the operation the mortality was only 10 per cent. Among the last 19 completed cases no mishap of any kind had occurred. In no case did a permanent fistula remain and in no case was there septicæmia, the temperature throughout remaining normal. Mr. Freyer suggested that patients who did not die from septicæmia on first entering on catheter life gradually became more or less immune from slow absorption of toxins over lengthy periods.

Mr. REGINALD HARRISON referred to two cases which he had operated on during the last two weeks. In one patient, aged 74 years, a suprapubic cystotomy was done and a stone was found impacted between the two prostatic lobes and complete obstruction was present. The prostate was removed and the patient was doing well. In the other patient, aged 60 years, by a lateral incision in the perineum he was able to enucleate an encapsuled tumour in the prostate. He considered the perineal route a very good way of approaching an enlarged prostate.

A medical man who was present and on whom Mr. Freyer had operated spoke of his personal experiences. He had had great difficulty of micturition for about four years and vasectomy had been performed without benefit. Then Mr. Freyer had removed the prostate by the suprapubic operation and since then he had had full control over the bladder.

Mr. A. B. MITCHELL (Belfast) described a case of enlarged prostate in which he had performed prostatectomy. He did not consider the perineal so easy as the suprapubic operation.

Dr. H. T. HERRING (London) pointed out that many of the symptoms which were often attributed to enlargement of the prostate were really due to the concomitant sepsis. The continuance of these symptoms was brought about, not by one inoculation, but by the constant and repeated introduction of septic matter. If care was taken to prevent septic infection of the bladder the passage of a catheter two or three times a day would keep the patient in good health. Such a case would not be suitable for operation. The prevention of sepsis could be effected by drilling the patient from the beginning in details of asepsis. He considered that this operation should be reserved for exceptional cases when all other methods had failed to give relief.

Mr. JORDAN LLOYD said that Mr. Freyer's operation was entirely new and not identical with preceding operations. He had found it difficult to remove prostates which were causing obstruction and yet were not much enlarged.

Mr. BETHAM ROBINSON mentioned that Mr. Freyer in his account of one of his cases had said that he removed a piece of the recto-vesical fascia. This would open up all the connective tissue of the pelvis and lead to extensive cellulitis.

Mr. FREYER, in reply, said that he had removed only a thin layer and not the whole thickness of the recto-vesical fascia. Theoretically it was possible to keep a bladder aseptic in spite of regular catheterism, but practically it was almost impossible.

Mr. TUBBY read a paper on

A Method of treating by Operation Paralysis of the Upper Root of the Brachial Plexus (Erb-Duchenne Type).

In this condition, due to injury of the root of the fifth cervical nerve, there was loss of power at the shoulder and at the elbow. He treated these paralyses by muscle grafting. He restored the power of flexion to the elbow by splitting off a portion of the outer head of the triceps and attaching it to the biceps. The loss of power at the shoulder was treated either by splitting off a portion of the pectoralis major, taking it over the acromion, and inserting it into the deltoid, or by joining a portion of the trapezius to the deltoid. The latter was the better method.

Dr. WILFRED J. HARRIS (London) said that he, in conjunction with Mr. V. W. Low, had read a paper in the Section of Medicine at this meeting in which this form of paralysis and its treatment were discussed. It was necessary to test the cervical nerve roots by weak faradic currents, so as to know which were the paralysed fibres. Sometimes only half of the fifth cervical root was paralysed. The treatment they had adopted was to suture the fifth cervical nerve to the sixth with very good results.

Mr. BETHAM ROBINSON mentioned that some years ago he collected records of 15 cases of this condition in children. Most text-books omitted entirely all reference to this form of paralysis.

Mr. TUBBY also read a paper on

The Pathology and Treatment of Hallux Rigidus, Hallux Flexus, and Hallux Extensus.

He considered that all these conditions were the result of an osteo-arthritis of the first metatarso-phalangeal joint. The position of the great toe depended on the portion of the head of the metatarsal bone which was denuded of cartilage. The treatment was to remove the head of the metatarsal bone, and if necessary to dissect out the sesamoid bones.

Mr. E. MUIRHEAD LITTLE (London) read a paper on

Phelps's Operation for Clubfoot.

He expressed the opinion that in this country the operation had not received the recognition it deserved. Since 1891 he had performed the operation 27 times. The cases on which he operated fell into two classes: (1) those of such severe deformity that careful and persistent treatment by milder methods had failed to effect a complete cure in spite of all the care of the surgeon and the patient's friends (these he called cases of necessity); and (2) cases, chiefly in hospital practice, which were neglected by the friends and relapsed again and again (these he called cases of expediency). The chief modification which Mr. Little made in the operation was to raise a V-shaped skin flap on the inner side of the foot with its free end over the tuberosity of the scaphoid. Then the soft parts beneath it were divided, avoiding the external plantar vessels and nerve, and further, if necessary, the neck of the astragalus was divided by a chisel. Then the tendo Achillis was divided subcutaneously and the flap was laid across the wound in the foot and secured by one or two sutures. The foot was then placed on a wooden backsplint with the sole flat and the fore part of the foot well abducted. After a few days the foot was put up in gypsum. The results had been satisfactory. If the foot was allowed to fall into the varus position during healing the cut surfaces would unite and a contracted sole would result. The operation was also useful in pes cavus and in one case of talipes calcaneus. The operation was contra-indicated in young children because of the difficulty of predicting what the ultimate result of growth and pressure might be and the danger of severe flat-foot following from the yielding of the scar.

Mr. TUBBY remarked that in many cases the scar contracted and there was need of careful watching to prevent relapse.

Dr. HERBERT SNOW (London) read a paper on

Cystic Tumours of the Mamma: their Removal by Forcible Massage without Incision.

He considered that the very prevalent cystic tumours of the breast arose from a congestion of the gland tissue, during which milk was secreted, even in unmarried women. The milk underwent decomposition within the ducts and acini. Under an anæsthetic the decomposed milk could be readily expressed from the nipple by massage. The breast was forcibly squeezed in alternate directions for 15 or 20 minutes. The breast was tender for a few days, but there were no rise of temperature, no pain, and no return of the tumour.

Mr. BETHAM ROBINSON thought that only in cases in which the cysts were near the nipple region could the cysts be ruptured and emptied in this way.

Mr. WHITELOCKE read a paper on

The Substitution of Temporary and Absorbable for Permanent and Unabsorbable Sutures in the Operations on Bone.

He pointed out that wounds in soft parts were not long ago united by metal sutures, but these had been entirely given up except for suturing bone. In the last three or four years he had employed for bone suture catgut or kangaroo tendon, and in cases of fracture of the patella and two of fracture of the olecranon the results had been universally successful. The suture should be applied so as to bring the fragments into accurate apposition and the limb was placed so as to relax the muscles. By the time, from 10 to 12 days, that the catgut, which he always used now, was absorbed the union was sufficiently firm to keep the fragments together unless some severe strain was thrown on it. The sutures of catgut were passed through the tendons and not through the bone. In suture of the patella the catgut passed through the ligamentum patellæ, then on the posterior aspect of the patella, and then through the tendon of the quadriceps, where it was tied. The joint was drained for 24 hours through an opening on the outer side. In 14 days the splint was removed and massage and passive movements were commenced, but the patient was still kept in bed. The patient should be able to walk perfectly in six weeks. An absorbable and non-irritating substance like catgut was surely preferable to a metallic substance which might be latent for a time and cause trouble later.

PSYCHOLOGICAL MEDICINE.

FRIDAY, JULY 31ST.

Dr. W. MAULE SMITH (Wakefield) read a paper on

The Nature of Fragilitas Ossium in the Insane.

An undue fragility of the bones was commonly met with in the insane, said Dr. Smith, after middle life, the ribs being by far the most commonly affected with this condition. The change was more frequently present in females and in some forms of mental disease it was more marked than in others. The ribs were by far the earliest to be affected, then followed the flat pelvic bones, the vertebræ, the skull cap, and lastly the long bones. The morbid process was everywhere the same—viz., atrophy of the compact bone and enlargement of the Haversian spaces. The change began in the marrow and spread outwards till almost the entire substance of the bone was involved. An analysis of 200 cases from the post-mortem records of the Wakefield Asylum was made, the investigation consisting of an estimate of the strength or fragility of a given rib as tested with the hands (holding the rib in the two hands and bending it until it snapped) and of a microscopical examination, in a certain number of cases, of the structure of the fragments of rib. No fragility could be noted in 26 out of 27 cases of idiocy and imbecility or in cases of chronic mania in which the patients had died at or before the age of 45 years. Melancholia was marked by evidences of increased fragility of the bones and this was still more so in cases of dementia, especially in female subjects. Cast into percentages it appeared that dementia, chronic melancholia, chronic mania, and general paralysis showed an undue fragility of the bones in 77·7 per cent., 76·4 per cent., 66·6 per cent., and 65·7 per cent. of cases respectively. In epilepsy 22 per cent. of cases exhibited fragility of the bones. Dr. Smith concluded from his observations that fragility of the bones in the insane was rare before the age of 45 years, except in cases of general paralysis, when it was oftener met with. Fragility was to be regarded as a morbid change which occurred in the insane in late middle life and in old age and which was probably associated with degenerative changes occurring in the posterior root ganglia of the spinal cord. This was clearly shown in the case of a woman, a subject of dementia, whose bones were thin and fragile and who died at the age of 54 years in an emaciated condition. The nerve cells of the spinal ganglia showed advanced pigmentary degeneration. The Nissl bodies were faintly stained or absent and in the pericellular spaces there was much infiltration of small cells. Dr. Smith concluded his paper with a summary of the microscopical character of "fragile" bones.

In the discussion which followed

Dr. CHARLES MERCIER (London) referred to the instrument devised by him some years ago to test the strength of the ribs, the breaking strain being determined on a principle similar to that of the dynamometer. He stated that observations on patients dying from other diseases than insanity should be made so as to furnish the normal standard of fragility of the ribs. There were many cases in which the detached rib could be broken by pressure between the thumb and fingers of one hand alone in cases of general paralysis, but, impressive as that was, it scarcely carried the same conviction to an outsider that could be produced by the statement of the number of pounds of pressure required to break the rib.

Dr. J. F. FLASHMAN (Balmain, Australia) said that crepitus was in some cases difficult to detect in the insane owing to the softness of the bones. He inquired whether the bone changes which underlay "fragility" were solely due to trophic disturbances consequent upon degeneration of the posterior spinal ganglia or whether they could be attributed to the direct action of some toxin on the bone marrow.

Dr. G. E. SHUTTLEWORTH (Richmond, Surrey) read a paper on

Some Slighter Forms of Mental Defect in Children and their Treatment.

The slighter forms of mental abnormality in the young called for careful diagnosis and judicious treatment in order

to prevent them developing into graver forms of mental disability. During three years of experience as examiner of children for admission to the special instruction schools of the London School Board cases of many of the slighter forms of mental defect were observed and studied and "types" of cases were recognised similar to those which occurred in an exaggerated form in asylums for the insane. These were classified into the following groups—viz., sub-microcephalic cases with heads measuring in circumference not more than 19 inches (7 per cent. of the total number of cases), cases with large heads suggesting hydrocephaly (from 3 to 4 per cent.), cases of Mongolian imbecility (from 2 to 3 per cent.), scrofulous cases (over 10 per cent.), cases with cerebral or spinal paralysis (about 2 per cent.), cretinoid cases (from 2 to 3 per cent.), syphilitic cases bearing characteristic stigmata (about 1 per cent.), and a few cases of post-febrile or traumatic feeble-mindedness. There was a large group of cases which could only be classified as "neurotic," and in many instances it was possible to trace a blending, so to say, of different types. Epileptic cases came rather into a category by themselves for educational purposes and of the 470 cases seen it was estimated that about 17 per cent. were fit to continue in ordinary elementary schools, whereas 27·5 per cent. were so far mentally impaired as to need separate instruction in the special classes. In addition there were 40 per cent. requiring to be cared for in a resident institution for epileptics and below these there remained a residue of 15·5 per cent. which were only fit for hospitals or asylums. The majority of the cases of mental defect were of congenital origin, though in some types no obvious signs were noticed till some time after birth, and this was a feature with some cases of cretinism, the physical characters of which, with the exception of macroglossia, were rarely remarked before nine months of age, and in inherited syphilis it was noted also that the manifestation of symptoms was often deferred until the period of the second dentition. Rickety skulls with insufficient room for the growth and expansion of the brain were met with in pauper children and sometimes among the children of well-to-do families who reared them on patent foods and the feeding bottle. Compulsory universal education had brought into prominence the existence of a large class of underfed school children who were a worthy object for charitable assistance. Dr. Shuttleworth then proceeded to describe and to hand round photographs illustrative of the various types of feeble-minded children already alluded to. Neurotic children were fidgety and hyper-excitable; sexual tendencies were prone to develop in them precociously and in later childhood they were liable to suffer from mental "obsessions." Neurotic children were occasionally reputed to be liars when they were not consciously so, being themselves carried away by an exuberantly romantic imagination. They were sometimes thieves without apparent adequate motive, appropriating things which were of no earthly use to them and which they freely give away to others. Especially were such tendencies noted at the trying epoch of pubescence, and instances were well known in which such tendencies passed away after the disturbing influences of puberty had subsided. "Phobias" of various kinds were also present in neurotic children. A curious instance of this was "mysophobia," a morbid fear of soiling the hands and the dress which caused anxious distress in the little patients, and might be compared with the hyper-conscientiousness of some pubescent girls. The recognised insanities of children did not come always under the category of "slighter forms of mental defect," but among the transient mental disturbances met with were those occurring in cases of chorea which, however, being probably of toxic origin, were happily for the most part merely symptomatic in character and temporary in duration. As regards treatment, Dr. Shuttleworth could only refer to cretinoid children who, he pointed out, improved remarkably, both mentally and physically, under thyroid treatment.

Dr. FLETCHER BEACH (London) remarked on the importance of the proper feeding of children and pointed out that certain patent preparations should on no account be used. Neurotic children who developed "habit spasms" (so-called neurotic spasms) benefited under the wet-pack treatment. Cases of moral obliquity with thievish tendencies were unfortunately, at present, unprovided with any institution for their reception and treatment.

Dr. W. LLOYD ANDRIEZEN (London) inquired whether the neurotic group of children, of which photographs were shown, constituted one or more types. In his experience they were generally bright and promising intellectually, though they frequently exhibited curious and unexpected anomalies in conduct, but apparently these children deteriorated at puberty, undergoing usually some mental disturbance with a slight residual dementia thereafter. He inquired about the differential characteristics which marked out the neurotic type.

Dr. F. EDRIDGE-GREEN (London) inquired whether imbeciles of the Mongolian type of physiognomy were born sometimes in healthy families, and, if so, what was the cause.

Dr. HELEN BOYLE (Brighton) said that improper diet and feeding of infants sometimes caused "night terrors" in the child. Babies fed on nothing but boiled milk did not thrive well. She inquired whether the "obsessions" in young children lasted and became delusions in adult life.

The PRESIDENT (Dr. R. JONES, Claybury) emphasised the importance of recognising and classifying the different types of weak-minded children for medical and educational treatment and said that his former experience at one of the large asylums for imbeciles and idiots (Earlswood Asylum) led him to appreciate the great practical value and interest of the problem of how to deal with feeble-minded children so ably dealt with in Dr. Shuttleworth's paper.

Dr. SHUTTLEWORTH, in replying, stated that he was convinced that school children should be properly fed if any real good was to be done in enabling them to profit by education and he was glad to say that the London School Board thought so too. With the aid of charitable agencies much had been done by the board to feed the more necessitous children entrusted to it for education. He agreed with Dr. Fletcher Beach as to the necessity for some special provision for children of middle-class parentage afflicted with mental and moral obliquity. In reply to Dr. Edridge-Green he stated that he had noticed Mongolian imbecility often showing itself in the last children of large families when it might be presumed the procreative powers of the parents were well-nigh exhausted. He looked upon this form of imbecility as due to essential lack of development. In reply to Dr. Andriezen's queries on the neurotic type he would say that want of normal nervous balance characterised this type. This was manifested by signs of irregular nervous action in the hands, face, and forehead, mentally by want of power of attention, not necessarily by lack of intelligence, but especially by defect of power of self-control. He could not, in reply to Dr. Boyle, state the proportion of children who suffered from obsessions and he believed that with proper education and mental occupation obsessions would be gradually abolished.

Dr. MERCIER read a paper on

The Classification of Insanity.

He concluded that classification was a necessity and that a fundamental distinction should always be recognised between mere psychological states, such as mental depression and mental exaltation, and the true varieties of insanity, such as general paralysis of the insane and chronic alcoholic insanity which had a definite and characteristic sequence of symptoms. In fact, any classification should be a classification by "type" rather than a classification by "definition." In the classification by "type" the class was steadily fixed, though not precisely limited; it was given, though not circumscribed; it was determined not by a boundary line without but by a central point within, not by what it strictly excluded but by what it included. He then proposed the separation of the varieties of insanity from the psychological forms on the lines advocated by him recently in his text-book on insanity. He thus distinguished and recognised in the scheme of classification general paralysis, the alcoholic insanities, epileptic insanity, puerperal insanity, and other varieties, of which "acute insanity" and "dementia" were particularised. Acute insanity was a variety which was composed of five or six sub-types—maniacal, melancholic, suicidal, sexual, resistive, and stuporous. Every case of "acute insanity" presented many features common to all the sub-types, but each sub-type was characterised by the exaggeration of one feature.—A brief discussion followed the reading of this paper.

Dr. DAVID YELLOWLEES, late medical superintendent of the Glasgow Asylum, opened a discussion on

The Treatment of Incipient Insanity.

Incipient insanity was defined as the mental condition occurring between the first manifestation of mental disorder and the development of "certifiable" insanity. It was also used to include cases of insanity where the

insanity, though obvious, was of recent origin and had not become permanently established or confirmed. Dr. Yellowlees then referred to the general rules to be followed in the treatment of incipient insanity—viz., removal of the patient from the surroundings where he usually lived, experienced nursing and skilled medical treatment, pleasant companionship, good food, rest, and suitable amusement. Though general principles were thus stated, their value, he said, lay in their judicious application. He hoped that the reception "houses" for incipient cases of lunacy which the London County Council was about to provide would be under the jurisdiction of the Commissioners in Lunacy and placed in the charge of skilled resident physicians who had had experience in the diagnosis, care, and treatment of lunacy in its various forms. He thought that all asylums for acute and curable cases of insanity should be small.

A discussion followed the reading of this paper in which Dr. R. S. STEWART (Glamorgan), Dr. BOYLE, and Dr. FLASHMAN took part, after which the PRESIDENT spoke on the importance of the scheme of treatment of incipient insanity and Dr. YELLOWLEES briefly replied.

Dr. STEWART read short portions of a paper on Wages, Lunacy, and Crime in South Wales, and Dr. A. T. SCHOFIELD read a few abstracts of a paper on Psycho-Therapeutics, its Use and Abuse. Both these papers were read without discussion owing to lack of time and the remaining papers on the programme were taken as read.

LARYNGOLOGY AND OTOLOGY.

THURSDAY, JULY 30TH.

Dr. P. MCBRIDE (Edinburgh) and Professor ARTHUR HARTMANN (Berlin) introduced a discussion on

The Technique of Operations on the Temporal Bone in Suppurative Middle-Ear Disease.

Dr. MCBRIDE in his opening address gave an interesting account of the history and development of operations upon the temporal bone from 1649, when Riolanus suggested the first operation of opening into the mastoid cells. It is said to have been proposed as a remedy in cases of occlusion of the Eustachian tube. The subsequent development of the technique of the mastoid operation was traced down to the present time.

Professor HARTMANN confined himself to some practical points and to showing some anatomical preparations in illustration of them. Speaking of acute inflammation he said that in opening the mastoid the antrum, as a rule, should be opened so as to allow free communication with the tympanic cavity. Only in those cases of abscess of the mastoid in which the internal wall of the abscess during operation appeared to be healthy and in which there was no swelling of the posterior and superior wall of the meatus and of the upper part of the membrane should they confine themselves to the removal of diseased bone and not open the antrum. If there were any symptoms or signs pointing to an extension of suppuration to the middle or posterior cranial fossa, then the bony parts should be removed until the dura mater was exposed. In order to effect a rapid and lasting cure by this operation the entrance to the cavity of the mastoid must be made very wide. All the bone over the diseased parts, chiefly the posterior and inferior edges of the bony cavity, must be removed and also the external part of the posterior wall of the meatus; by so doing the soft integuments afterwards lined the cavity. Speaking of the treatment of chronic suppuration of the middle ear, he said that the principle of the radical operation was that all the affected parts of the tympanic cavity and mastoid were rendered perfectly accessible and visible. For this purpose (1) all bone external to the affected parts must be removed; and (2) the external meatus must be considerably enlarged. Professor Hartmann here demonstrated several preparations showing the relationship of the facial nerve to the inner and posterior wall of the meatus. In the treatment of labyrinthine suppuration he said that the vestibulum could be opened without difficulty by removing the stapes from its window. If it were not to be seen the vestibulum could be opened by the burr, but they must avoid going upwards in order not to injure the facial nerve; by going too deeply the carotid might be injured. In the majority of cases purulent inflammation of the labyrinth extended from the mastoid through the semicircular canals. The operation could be performed from the semicircular canals or from the promontory according to the seat of the disease. Preparations were demonstrated in illustration of these points.

Before operating for chronic suppuration he recommended that the tympanic cavity and the antrum should be cleansed as thoroughly as possible by means of a suitable cannula such as he had devised; he had seen many cases in which the radical operation had been advised but after cleansing the parts in the way mentioned the discharge ceased and by a few repetitions of this purification the necessity for an operation was obviated. He had met with similar experience in the treatment of suppuration of the antrum of Highmore. He said that, as a rule, after the operation several spots were left covered with epithelium, such as the inferior and superior wall of the meatus, also a small piece of the internal part of the posterior wall, some parts of the surface of the internal and upper wall of the tympanic cavity and the antrum; from these spots epidermisation could extend. By enlarging the opening of the meatus and removing the edges in a manner recommended for acute abscess, the soft parts extended inwards and only as mall cavity was left to be covered. The best grafts were the natural extensions from the soft parts in the cavity. The enlargement of the external meatus might be effected by means of Korner's flap or by the Y-shaped cut of Siebenmann. The more they enlarged the meatus the more they diminished the external surface of the wound cavity and epidermisation of the internal surface could more easily and readily take place by extension from the edges of the enlarged meatus. Epidermisation by implanting skin grafts was not now performed in Germany so much as formerly. Dr. Hartmann said that by proceeding in the manner he had recommended, by leaving some parts of the internal surface covered with epithelium, by removing the edges so that the whole cavity was rendered very small, and by enlarging the external meatus considerably, they seldom had to resort to skin-grafting and the wound behind the concha could be sutured after the operation.

Dr. J. DUNDAS GRANT (London) considered that Dr. Hartmann had taken a very practical course in dividing the operation into two groups according as they were practised for acute or chronic inflammation. The two operations were entirely different. It had been said that the radical operation was performed too often; in his opinion the non-radical operation for acute inflammation was performed too seldom. He preferred to work with a firm bent probe, such a one as devised by himself, or Stacke's guard, but it in itself was capable of doing damage unless it was held by an experienced assistant; the guard itself might be the agent in damaging the facial nerve.

Dr. R. C. ELSWORTH (Swansea) showed some preparations of the temporal bone cut to demonstrate an accessory antrum above and behind the antrum itself, and also a small vein connected with this accessory cavity.

Professor GLUCK (Berlin) demonstrated by means of diagrams the operation which he performed for nerve grafting and suturing between the facial and accessory nerves. He also demonstrated the extirpation of the jugular vein and the transverse sinus for sinus thrombosis.

Dr. W. JOBSON HORNE (London) speaking of the technique of the mastoid operation referred to the relationship of the posterior bony wall of the meatus to the facial nerve, and considered that more of the wall could be cut away than was generally practised, and without injury to the facial nerve. That point had been demonstrated by Dr. Hugh Jones at a meeting of the Otological Society of the United Kingdom recently held in Liverpool. By a more efficient removal of that part of the bone better drainage was established, healing was accelerated, and a possibility of a subsequent narrowing or stenosis of the meatus was lessened. Referring to Dr. Elsworth's specimens he considered the vein to be a tributary to the petrosquamosal sinus and the accessory antrum really an aberrant mastoid cell. Whilst fully agreeing that both might have a pathological bearing he was opposed to dignifying either with a special name and thereby adding to the terminology with which the bone was already burdened.

Dr. HERBERT TILLEY (London) thought that there were far too many instruments being introduced for the less important steps in the operation and that they would come to depend less on surgical skill and a knowledge of anatomy than on mechanical appliances. He preferred separate grafts to one large one as the failure of one small one "to take" was a less evil than failure of the large and only one.

Dr. A. BRONNER (Bradford) inquired whether the heat generated by the use of the burr might be detrimental to the internal ear.

Mr. S. LODGE (Bradford) spoke of the formation of false membranes after the operation and the difficulty in keeping the meatus sufficiently widely open.

Dr. A. LOGAN TURNER (Edinburgh) considered that if packing was given up in the after-treatment the surgeon should inspect the ear more frequently himself and not leave it so much to the house surgeon.

Dr. R. H. WOODS (Dublin) spoke in favour of early training in the operation and the use of fewer instruments.

Professor V. DELSAUX (Brussels) spoke with reference to the after-treatment; a colleague of his had conducted the after-treatment without continuous packing with success. Personally he preferred not to lay down any hard-and-fast line.

The PRESIDENT (Dr. P. WATSON WILLIAMS, Clifton, Bristol) having briefly summed up the discussion Dr. MCBRIDE and Professor HARTMANN replied. The former was in favour of Stacke's protector whilst the latter had been informed by the inventor that he had long discontinued using the instrument which he had designed.

Dr. BRONNER read a paper

On the Local Use of Formalin in the Treatment of Nasal Polypi before and after Operations on the same by the Usual Methods.

Dr. JOBSON HORNE inquired whether the possible danger of injuring the olfactory sense by the use of formalin in the treatment of nasal polypi was outweighed by the good results obtainable; he also asked whether it was desirable to intrust to patients the application of formalin of sufficient strength by means of sprays.

Dr. TILLEY thought that Dr. Bronner was making a too sweeping statement in saying that the majority of nasal polypi were caused by accessory sinus disease.

Dr. BRONNER replied that there was no objection to the application of formalin provided that the usual precautions were taken.

Dr. ARTHUR G. HAYDON (London) demonstrated photographs illustrating the familiar voice effects produced by the Singing Voice on a Suitable Medium.

FRIDAY, JULY 31ST.

Dr. F. DE HAVILLAND HALL and Dr. JOBSON HORNE opened a discussion on

The Upper Respiratory Tract as a Source of Systemic Infection.

Dr. de Havilland Hall brought forward evidence to show that typhoid fever might start in the larynx and referred to a case in his hospital practice in which the disease probably started in that organ and also to a case recorded by Dr. Watson Williams at the meeting of the British Medical Association in 1894. Infection was more likely to happen when the vitality of the laryngeal mucosa had been previously lowered by inflammatory mischief. He pointed to the initiatory symptoms of measles, influenza, and whooping-cough as clearly indicating that the virus of these diseases entered the system through the upper respiratory tract. Diphtheria was essentially a local disease at its commencement and the specific bacilli might enter at the nose, the naso-pharynx, the pharynx (which was the usual situation), or the larynx; the secondary symptoms were due to the absorption of toxic materials secreted by the bacilli during their growth. He had seen many cases of influenza in which infection appeared to have taken place in the naso-pharyngeal space and he was strongly of the opinion that adenoid vegetations rendered the individual more liable to contract influenza and many other infectious diseases. The same might be said with even greater emphasis of the faucial tonsils, and he thought that parents and others having the charge of children could not be too strongly impressed with the danger of allowing them to go about with adenoids and enlarged tonsils. Cases were quoted to show that the virus of scarlet fever might enter the system through a wound of the nasal mucous membrane. He considered that there was much to be said in favour of the view that tonsillitis was a primary infective disease of the lacunæ and that rheumatic fever was a secondary disease arising from the absorption of microbes or their products into the system. He emphasised the importance of the careful treatment of even slight tonsillar affections in view of the danger of systemic infection. Septicæmia, pyæmia, and erysipelas were shown to be diseases which certainly entered the system in many cases through the upper respiratory tract. The occurrence of primary tuberculosis of the nose, the pharynx, and the larynx, and the recognition of latent tuberculosis of the tonsils, both faucial and pharyngeal, pointed to the possibility of the tubercle bacillus entering the system *vid* the upper respiratory tract. Cases of syphilitic infection through primary sores in the nose, the naso-pharynx, the pharynx, and the larynx were mentioned.

Dr. JOBSON HORNE, after referring generally to the importance of the subject under discussion and to the vastness of the field it covered, said that he proposed only to invite consideration of a few diseases of obscure origin and insidious onset which at times—and he believed more frequently than was commonly thought—had their origin in the upper respiratory tract. The diseases specially alluded to were infective endocarditis, tuberculosis, lymphadenoma (Hodgkin's disease), and lymphosarcoma. The term "infective endocarditis" in its usually accepted and restricted sense, meaning the malignant, ulcerative, or septic phase of the disease, he said, was perhaps no longer tenable now that they knew all forms of acute endocarditis to be infective in nature. The cases, however, to which he was about to refer belonged to the more malignant and destructive variety in which the septic process was by no means confined to the heart but in which the stress of the disease was upon that organ. The part played by the faucial tonsils in rheumatic fever, and therefore in acute endocarditis, had already been submitted to them. He wished to draw attention to the larynx, a breach in the mucous membrane of which at times he had observed to be the site of entry of the parasite which brought about the destruction of the patient in malignant endocarditis. Cases were quoted and photographs shown in which the lesions in the larynx were so gross as to leave no doubt about it being the primary site of infection. The starting-point of the ulceration, he said, was in a fold of mucous membrane which commenced behind the vocal process and passed obliquely upwards and backwards to be lost between the summits of the cartilages of Santorini and Wrisberg. He found this to be a site which lent itself to infection in other diseases about which he spoke—there secretion was arrested and stagnated and there stress and strain were put upon the laryngeal mucosa so that a breach easily occurred in a weakened membrane. He referred to it as the "vulnerable spot" in the larynx. The upper respiratory tract as a source of tuberculous infection was considered under three headings. Firstly as a site of direct infection. The lesion might be the outcome of direct infection by the virus from outside the body as in primary tuberculosis of the nose, the fauces, the post-nasal adenoid tissue, the soft palate, the pharynx, the parotid gland, the tongue, the larynx, and the ear, all of such primary infections with the exception of the last being comparatively rare. On the other hand, the lesion in the upper respiratory tract might be the outcome of direct infection with sputum from the lungs, in which case, of course, the infection was a secondary one, of which tuberculosis of the larynx was a typical example. Primary tuberculosis of the larynx was so extremely rare that it was a negligible quantity. The diagnosis of such a condition for obvious reasons could only be based upon post-mortem evidence. In the course of ten years, whilst closely following the post-mortem examinations of a large general hospital, he had never met with a single case. From observations made post mortem he considered that he was in a position to make the following statements with regard to tuberculosis of the larynx: (1) when the larynx was infected with tubercle the disease was already established in the lung; (2) that by the time the disease in the larynx had advanced to ulceration the disease in the lung had advanced to cavitation; and (3) when the disease in the lung was confined to the pure miliary form the larynx was never infected. The deductions were that the infection of the larynx was by the sputum and that the so-called cure of laryngeal tuberculosis by means of surgical treatment was of little avail unless the disease in the lung had been arrested. Infection of the ear by the sputum he had recently dwelt upon in opening a discussion on the subject at the Otological Society of the United Kingdom. Speaking of the controversy about the relative potency of the virus of tubercle in its dry and moist forms, he said it was generally agreed that the propagation of the disease was to be attributed mainly to the particles of sputum from tuberculous patients. Cornet and his school held that the sputum was more dangerous when it became dry and pulverised. Flügge, on the other hand, maintained that the sputum was more infectious in its moist form, as in the spray produced in

coughing and sneezing. Both the larynx and the ear were exposed to infection through the agency of an atmosphere charged with tuberculous dust, yet it was extremely rare to meet with tuberculosis primarily in the larynx by direct infection from the air inspired. It was equally rare to meet with tuberculosis in the ear starting from the external meatus. On the other hand, evidence had been adduced to prove that infection by the sputum directly from its mother soil to the larynx and to the orifice of the Eustachian tube was by no means rare. These facts, he considered, strongly supported the view advanced by Flügge. Tuberculosis when it occurred in the trachea was more marked in the posterior wall and in subjects of pulmonary tuberculosis who had become bedridden, which was explained by the prolonged contact of a tenacious agent such as sputum. Secondly, the upper respiratory tract might be a path of indirect infection in tuberculosis without any naked-eye or positive microscopic evidence being left behind to indicate the path of infection. Lymphoid tissue was the most vulnerable of all tissues to tuberculosis and yet it was most difficult to demonstrate tubercle bacilli in excised tonsils, post-nasal adenoid tissue, or lymphatic glands. That a systemic infection with tuberculosis did take place through the lymphoid ring of the upper respiratory tract was beyond question. The preceding considerations gave rise to the third proposition—the part played by the lymphoid tissue in modifying or arresting a systemic infection, which in turn brought the speaker to lymphadenoma or Hodgkin's disease. He recognised in the disease a histolegical entity but not a pathological one. He preferred to use the term in a comprehensive and non-committal sense. He regarded the disease as the outcome of an infection and produced evidence to prove that ulceration in the larynx at times was the site of entry of the infecting agent. The enlarged gland might be as much a manifestation of an effort on the part of the lymphatic system to prevent a disease—whether it be tuberculosis or anything else—as of disease itself. Lastly, he brought pathological evidence to show that thoracic lympho-sarcoma might be part of a systemic infection and that the larynx might be the site of entry of the infecting agent. In conclusion Dr. Horne expressed the hope that one outcome of the discussion would be a wider recognition of the utility of laryngoscopy in general medicine.

Dr. J. L. GOODALE (Boston, Mass.) continued the discussion with a paper dealing with the histology of the tonsil in its relation to disease.

Dr. F. J. POYNTON (London) said that early experimental investigation in Germany demonstrated conclusively that a streptococcus might be present in the throat in diphtheria which would produce with some constancy a suppurative arthritis in animals. Dr. A. Paine and himself had made another step when they showed that a diplococcus could be isolated from a rheumatic angina which on intravenous injection would produce the lesions of rheumatic fever in the joints, heart, pleurae and elsewhere, and which was present in the lesions of rheumatic fever in man. The stages in the process were: (1) the micro-organisms entered the fibrous framework of the tonsils and thence reached the minute blood capillaries and lymphatics and so the general circulation; and (2) the micro-organisms had been isolated from the blood in man and found in the local lesions. Thus it was established that a focus in the upper air passages might be the cause of a general infection. Local treatment of the upper air passages could only do a limited amount of good in infections of the rheumatic type, for each internal lesion was a local focus; every effort, however, should be made to arrest the process before it became generalised. It was not known why it was that micro-organisms, probably always present in the throat, suddenly became pathogenic. Infection from the throat might very probably occur without there being any appreciable local symptoms.

Dr. TILLEY limited his remarks to the part which the nose and naso-pharynx played as a source of general septic infection in two sets of circumstances. When a chronic purulent focus existed the general health might suffer in a very serious manner as a result of the constant absorption of the septic products from that focus. When operative procedures had been carried out in these regions very grave and even fatal results might ensue if due care had not been taken to provide for, and to maintain, cleanliness of the wounds.

Dr. D. R. PATERSON (Cardiff) spoke of tuberculosis arising in old cases of eczema and also spoke of the bearing of the subject under discussion upon renal disease.

Dr. WOODS regretted that the mouth had not been included in the discussion and referred to pyorrhœa alveolaris as a source of general disturbance of health.

Dr. LOGAN TURNER spoke of obscure septic cases without obvious cause as possibly originating in some septic infection in the upper respiratory tract.

Dr. WILLIAM LAMB (Birmingham) said that the site in the larynx referred to by Dr. Jobson Horne as the "vulnerable spot" had been indicated as a site of infection in typhoid fever.

The PRESIDENT summed up the discussion and the openers replied.

TROPICAL DISEASES.

THURSDAY, JULY 30TH.

Sir PATRICK MANSON, K.C.M.G. (London), opened the discussion on

Trypanosomiasis

by briefly recapitulating the discoveries of the trypanosome parasites in men and animals. In searching for trypanosomes thin films of blood, stained by methylene blue, by thionine, or by Romanowsky's method, and examined by one-sixth of an inch objective, gave the best results. The clinical features of trypanosomiasis were usually absent in the native but in the European the disease gave rise to an undulant type of fever, accompanied by œdema, circinate erythema, muscular weakness, irritable pulse, anæmia, frequently enlarged spleen, and choroiditis, iritis, cyclitis, or optic neuritis. Sir Patrick Manson stated that possibly some of the more obscure tropical ailments, such as sleeping sickness, kala-azar, and certain forms of enlarged spleen, might be due to trypanosome parasites in the blood. The recent discovery of Castellani of trypanosomes in the cerebro-spinal fluid of persons suffering from sleeping sickness was important. The points of favour of these being associated as cause and effect were: (1) that, in Uganda at any rate, the two were frequently associated; and (2) the presence of the parasite in connexion with the nervous system. Against the idea that the trypanosome caused sleeping sickness it might be argued: (1) that, although Europeans suffered from trypanosomiasis, they did not get sleeping sickness; and (2) on the Congo and in West Africa trypanosomes had not been met with in patients suffering from sleeping sickness. The interval between infection with trypanosomes and the appearance of symptoms of sleeping sickness lasted sometimes for months or even years, but this did not completely negative the association of the parasite and the illness, for in such diseases as leprosy, malaria, and tuberculosis a similar history obtained. Sir Patrick Manson was not inclined to consider that the trypanosome in the cerebro-spinal fluid of the African was the cause of sleeping sickness. The inoculating agent might be a glossina, a tabanus, a stomoxys, or even a tick. The disease known in different parts of Africa as carrapato was produced by a tick and might or might not be a trypanosomal disease.

Dr. CUTHBERT CHRISTY (Liverpool) read a paper on

The Distribution of Sleeping Sickness and its Relation to Filaria Perstans and to Trypanosomiasis.

In Uganda, whilst serving in the Royal Commission expedition, he found sleeping sickness confined to a narrow strip of coast along the north-west and northern shores of the Victoria Nyanza lake, extending in all about 250 miles as far eastward as German East Africa. Filaria perstans was not the cause of sleeping sickness, for he met with the disease at least 100 miles beyond the extreme eastern limit of the area infected by the filaria parasite. The connexion between the presence of glossina (tsetse-fly) and sleeping sickness was such that there might be a causal relationship. It was the agricultural districts in which the parasite and the disease were more frequent, for in towns it was known that sleeping sickness was infrequent and the tsetse-fly avoided villages, objecting evidently to fæcal odours.

Dr. J. EVERETT DUTTON and Dr. J. TODD (Liverpool) communicated a paper dealing with

The Human Malady Trypanosomiasis.

They stated that they had examined 1000 persons on the Gambia and found the trypanosoma in seven persons (six natives and one quadroon). The blood infections were slight and the signs and symptoms of the disease were mild. In some cases lymphatic glands were enlarged and the spleen in young persons. Trypanosomiasis seemed to occur in both young and old people.

Dr. CHRISTY related his discovery in Uganda and its neighbourhood of the dangerous tick,

Ornithodoros Moubata (*Argas Moubata, Murray*),

known to the natives as the *bibo*, and previously recorded only from the Zambesi and Angola in West Africa. He found it commonly in the dust on the floors of the rest huts built for porters and in the houses of the natives. He showed specimens of the tick and gave an account of the severe symptoms occasionally following its bite and made the suggestion based upon its distribution and certain observations that it might possibly turn out to be the intermediary host of filaria perstans. Dr. Christy then read some notes furnished him by Mr. R. J. Pocock, the arachnologist to the British Museum, to whom he had submitted his specimens, in which some interesting points in connexion with his discovery were dwelt upon.

Dr. A. CASTELLANI (Florence) said that in Uganda in November, 1902, he had first noticed a trypanosome in the cerebro-spinal fluid of patients suffering from sleeping sickness and that in control cases he had never found the parasite in the fluid. It was possibly a different species of trypanosome to the trypanosoma Gambiense. The subjects of sleeping sickness seemed more liable to become infected by some parasites than were healthy natives, for in them, for instance, filaria perstans was frequently found, but the filaria was only found in the blood, never in the cerebro-spinal fluid. As horses were affected by five different forms of trypanosomiasis—namely, surra, nagana, mal de Caderas, dourine, and the form recently described by Dutton and Todd—it was possible that man might also be liable to infection by different species of trypanosomes, each causing different signs and symptoms. The mononuclear leucocytosis described by Mott and Low occurring around the vessels of the brain in sleeping sickness seemed to favour a protozoal origin of the disease. Dr. Castellani held that sleeping sickness was due to a trypanosome as (1) the parasite was constantly, or almost constantly, present in the cerebro-spinal fluid; (2) it was never found in other diseases; and (3) the pathological changes seemed to favour the conclusion that it was a trypanosomal disease.

Dr. L. W. SAMBON (London) stated that according to E. Brumpt the natives of Kilimandjero and the Galla country feared the bite of a tick which was probably the ornithodoros moubata and Dr. Christy's observation as to the peculiar disease inoculated by this tick in Uganda and neighbouring countries was very interesting. They had no proof, however, that this tick was the intermediary host of filaria perstans. The long incubation period of sleeping sickness did not negative the possible trypanosoma origin of the disease, as in several diseases due to protozoal parasites they found the same. Dr. Sambon considered that the patchy distribution of sleeping sickness along the margins of rivers and lakes agreed with the peculiar distribution of tsetse flies. He thought that the limitation of tsetse flies to the neighbourhood of water found its explanation in the feeding habits of certain freshwater fish, many of which were amphibious, retiring into burrows during the dry season and feeding at night on grain and insects. Trypanosomes were common in fish and especially amongst those living in mud. The trypanosomes of fish resembled those of mammals and the natives of various parts of Africa (Senegambia, Congo, &c.) ascribed the sleeping sickness to the sting of a fish or to eating fish with diseased gills. Although the trypanosoma Castellanii, trypanosoma Gambiense, and those of nagana and surra were apparently identical, still it was possible that they belonged to different strains of biological species. It had been shown that the trypanosome of nagana was modified considerably when passed through certain hosts.

Dr. G. C. LOW (London), a member of the recent commission sent to East Africa to investigate sleeping sickness, said that (1) in British Guiana he found that 50 per cent. of the aboriginal Indians had filaria perstans in their blood, but no sleeping sickness existed there; (2) in Uganda, when Dr. Low arrived there, Dr. A. D. P. Hodges and Dr. Wiggins had already demonstrated the fact that there were no cases of filaria perstans in Kavirondo, where sleeping sickness was prevalent. Filaria nocturna had its habitat in the lymphatic system, filaria perstans in the mesentery. The theory that the embryos of the filaria collected in the cerebral capillaries and thereby set up the sleeping sickness had no foundation in fact, and the theory that the poison was due to a toxin was improbable. As regards the presence of trypanosomes in the cerebro-spinal fluid causing the disease it must be remembered that many other parasites were also met with in natives besides trypanosomes, which served to complicate the diagnosis of the cause and necessitated care in arriving at a conclusion. In lower animals the pathological changes caused by trypanosomes did not justify by analogy the conclusion that these parasites in man set up the pathological conditions met with in sleeping sickness. The post-mortem macroscopic appearances of the meningeal changes in sleeping sickness closely resembled ordinary septic meningitis. On closer examination, however, it was seen that the exudation showed mononuclear leucocytoses in the perivascular spaces in the former and polymorphonuclear leucocytoses in the latter and not in the perivascular spaces specially. Regarding the theory of Dr. Christy that argas moubata was the host of filaria perstans it might be mentioned that Dr. C. W. Daniels had shown that this parasite did not exist in British Central Africa. In British Guiana, on the other hand, there was no argas moubata, but filaria perstans were plentiful. Dr. Sambon's statement that the tsetse fly was always found near water was at variance with Mr. F. J. Jackson's observations that the fly was met with in areas that were perfectly dry and covered with scanty bush.

Captain LEONARD ROGERS, I.M.S., objected to the view of regarding kala-azar as a trypanosome disease. He thought it impossible to recognise trypanosomes by so-called involution forms. He had examined several hundreds of cases of kala-azar but had never found a trypanosome. A characteristic feature in kala-azar was the peculiar melanotic pigmentation invariably found in the organs. Such a pigmentation was proof of an endoglobular parasite. The trypanosome lived in the plasma. In surra no melanotic pigmentation was produced by the trypanosome.

Fleet Surgeon P. W. BASSETT-SMITH, R.N., read a paper on

Five Cases of Abscess of the Liver.

Three of the cases recorded were operated upon by Surgeon G. Kirker, R.N., successfully by abdominal or trans-thoracic incisions. All the patients had had dysentery previously. Fleet Surgeon Bassett Smith also drew attention to the importance of recognising the presence of leucocytosis as an aid in the diagnosis of the presence of pus.

Mr. JAMES CANTLIE (London) stated that during the past two years he had operated upon ten cases of abscess of the liver, and at one period, in August, 1902, had seven cases of abscess of the liver at one time under his care, showing how much more prevalent hepatic abscesses were in England than might be expected. He had now used the trocar and cannula and syphon drainage in some 50 cases of this disease and he strongly condemned trans-thoracic incision or laparotomy for *deep-seated* abscess of the liver as being over-heroic and likely to cause young or inexperienced surgeons to put off operation until too late. He had seen so much of this lately that he regretted that teachers of surgery should advocate an operation which their pupils would not care to undertake (until too late) and condemn a simple operation which was more efficient, safer, and could be done by a medical man single-handed. The last point was one of great importance as abscesses of the liver were frequent in out-of-the-way parts of the world, where hospitals were but ill equipped and where neither nurses nor skilled assistance could be obtained. To tell a man in such a position that the only operation for abscess of the liver was opening the pleura, excising a piece of rib, opening the peritoneal cavity, and then searching for pus deeply seated in the liver tissue was to condemn the practitioner to non-interference or his patient to death.

Captain ROGERS read a paper on

Biliary Abscesses of the Liver, with an Operation.

By biliary abscess Captain Rogers meant abscesses in the liver within the bile-ducts, sometimes called "suppurative cholangitis." The difficulty of diagnosis in such cases was great. The history given was usually that of enlarged liver, fever, and repeated attacks of jaundice. In one case in Calcutta Captain Rogers found the gall-bladder filled with calculi and a large number also in the right hepatic duct; these were removed and the wound was drained but the patient died. Post mortem the bile-ducts were full of pus which had burrowed backwards and upwards, invading the right lung. He considered that were cases of the kind operated upon at a fairly early stage good results might be anticipated.

FRIDAY, JULY 31ST.

Discussion on Leprosy.

Mr. JONATHAN HUTCHINSON (London) stated that an overwhelming body of evidence was opposed to the belief that leprosy was spread by any ordinary mode of contagion, such as by the breath, touch, clothes, bites of insects, wounds, &c. Hereditary transmission had rarely if ever been proved. That the food taken from the hands of lepers—commensal communication—caused leprosy might occur occasionally but was extremely rare. As in Mr. Hutchinson's opinion leprosy, in countries where the disease was not common, was not inherited or contagious but arose *de novo*, the cause must be sought for in some article of diet and there was no other article of food which could be reasonably suspected except fish. Tainted, improperly cured, or uncooked fish he had proved to be an article of diet in all communities in South Africa and India where cases of leprosy occurred, and he advanced very telling instances of individuals in non-fish-eating communities who had become affected after consuming such fish. Mr. Hutchinson drew attention to the prevalence of leprosy in Roman Catholic communities owing to the fast days imposed, when fish was the food. He appealed strongly against confining lepers in leper homes; the cruelty of compulsory segregation was wholly unnecessary and unjustifiable as leprosy was not communicated by contagion.

Dr. P. S. ABRAHAM (London) said that he agreed with Mr. Hutchinson in condemning those terrible leper prisons like Robben Island. That early cases of leprosy should be segregated by compulsion was a transgression on their common humanity. As tubercle was contagious, so, he believed, was leprosy, but in no other sense. Dr. Abraham read a letter from Dr. Ehlers in which the great Scandinavian authority on leprosy said: "What is 'badly cured' and what is 'well cured' fish? There must be something in the fish (bacillus, poison, or what?) which causes leprosy if Mr. Hutchinson's idea is correct." Dr. Ehlers ascribed the decrease of leprosy in Norway to segregation. In several parts of the world certain kinds of fish were accredited by the natives with causing leprosy, but did Mr. Hutchinson condemn all fish in his hypothesis?

Sir PATRICK MANSON disagreed with Mr. Hutchinson's theory regarding fish as a cause of leprosy and held that the discussion of such a proposition without a scientific basis was mere waste of time.

Dr. F. M. SANDWITH (Cairo) stated his experiences of leprosy in Egypt and agreed as to the non-hereditary character of the disease and to the small danger from contagion, but he could not altogether accept stinking fish as the cause of the disease.

Mr. J. D. HILLIS (Dublin) dissented from the etiological relationship of fish to leprosy. He had after due consideration and largely in the interests of the lepers themselves prevailed upon the Government of British Guiana to carry out a form of segregation and he condemned the campaign against leper asylums.

Dr. SAMBON considered that the peculiar geographical distribution of leprosy, its steady increase in certain regions and its decrease in others, and its sudden appearance and rapid spread in islands and countries previously immune were all facts which could not be explained in Mr. Hutchinson's fish theory. He considered that leprosy was stamped out from almost all European countries by the strict laws inforced against lepers in the Middle Ages.

Mr. CANTLIE believed that lepers in the later stages of the disease were contagious. He had known leprosy to be contracted by a daughter nursing her leprous father (European), and also of a European who contracted leprosy from sleeping beneath the same blanket with his Chinese leper servant on board a house-boat. On the other hand, he had seen a woman who had lived in the leper village in Canton and had married three leper husbands yet was she free from the disease. In support of Mr. Hutchinson's theory as to the insufficiency of salt being associated with imperfect curing of fish, it was a fact that whereas the northern portion of China was well supplied with salt and there was no leprosy, except in Shantung, in the southern part salt was scarce, having to be imported from the north, and in these regions leprosy was rife.

Major A. G. HENDLEY, I.M.S., read a paper on

Lathyrism

as observed by him in India. Lathyrism was a disease of the nature of an intoxication with a spastic spinal paralytic course which was attributable to poisoning with various kinds of the family of *Papilionaceæ*—e.g., *lathyrus sativus* (chick-pea or common pulse) (Scheube). In July, 1893, Major Hendley first saw the disease in India, but in 1896–97, during the famine, it became general amongst the poorer agricultural labourers. He believed that the lathyrus only predisposed to cause lathyrism and that exposure to wet and cold was required actually to excite the sudden seizure of paralysis.

Dr. H. MARCUS FERNANDO (Colombo, Ceylon) read a paper on

Tropical Malaria and its Properties.

In Ceylon malaria was prevalent over the whole of the low country and especially on the north and east of the island; its periodical outbursts bore a marked relation to the seasonal rains. Æstivo-autumnal (tropical) fever was the most prevalent variety, constituting 99 per cent. of all malarial fevers in Ceylon. The benign tertian and quartan fevers were so rare that it was possible that they were altogether importations. In Ceylon the great hindrance to prophylaxis was the cultivation of rice, owing to the mosquitoes breeding in the water used for cultivation; in Italy the Government had forbidden the cultivation of rice within four miles of human habitations.

Dr. H. D. MCCULLOCH (Secunderabad, India), brought forward

A Plea for the Proper Medical Supervision of Refreshments purveyed on Railways in the Tropics, with special reference to India, and for Better Latrine and Lavatory Accommodation for the Travelling Indian Public.

The introduction of railways into India had opened up a means of diffusing disease which closely affected the public health of the country. Dr. McCulloch pointed out the necessity of adequate medical and sanitary staffs on the Indian railways and also in the mercantile marine. On railways the aerated waters supplied either in the train itself or at the stations were made with unfiltered and unboiled water and therefore they were apt to carry infection. He also put in a strong plea for having properly trained nurses on the large passenger vessels going to and fro between Great Britain and tropical countries.

Mr. CANTLIE read a paper upon

Plague in Domestic Animals

in which he drew attention to Dr. W. J. R. Simpson's and Dr. W. Hunter's experimental work in Hong-Kong in 1902. He drew attention to the fact that in June, 1903, two fowls, a duck, and a quail were found in the Hong-Kong market suffering from plague. This fact, combined with the experimental proof that fowls, geese, turkeys, pigeons, rats, cats, dogs, pigs, goats, sheep, and buffalo calves, &c., contracted the disease when fed on plague-infected material, indicated a most serious state of affairs for any plague-infected town or district. Practically all domestic animals might suffer from the disease: hence, no doubt, the persistent endemicity attaching to plague, for if the animals in the farmyard, the stable, and the byre were all polluting the soil, &c., with plague germs, the continuance of the disease was certain. Natives of Oriental countries—and, for that matter, in countries nearer home—had frequently the fowls and animals under the same roof and therefore they both became liable to intercommunication of diseases. They had been assigning to rats solely the power of spreading plague, but the rat was only one of many infected animals, and whilst guarding their ships from rats from the plague-infected shore they had been importing the disease in fowls, pigs, or by way of any animal taken on board for food.

Dr. J. R. DICKSON (Trinidad) and Dr. C. F. LASSALLE (Trinidad) sent a communication entitled

Varioloid Varicella in Trinidad.

This disease, which had prevailed in Trinidad for some time, was at first considered to be varicella. The incubation period varied from ten to 15 days. The invasion was marked by general muscular pains, fever, and headache; the eruption usually appeared on the fourth day of the illness as papules which then became vesicular, pustular, and finally desiccated and desquamated. The rash as a rule appeared on the extremities, the face, and the back of the body, but the palms of the hands and the soles of the feet were frequently involved. The first case occurred in the St. Anne's Lunatic Asylum on April 16th, 1902. In May of the same year other cases occurred within the asylum and in other parts of the

island. The outstanding features of the disease were (1) its atypical character; (2) the occurrence of a second attack in persons recently recovered from the disease; (3) the successful vaccination of persons recently recovered from the disease; and (4) attacks occurring in recently vaccinated persons.

Dr. G. C. LOW said that he had seen this disease in the West Indies and had no hesitation in pronouncing it to be small-pox.

Dr. W. BRIGGS CLARKE stated that during an outbreak of small-pox in Barbados the authorities in Trinidad were concerned about an eruptive fever which was pronounced not to be small-pox. Ships were allowed to call at Trinidad and several men-of-war had small-pox on board after they left the island. Mr. J. F. E. Bridger was sent by the Government of Barbados to report on the fever prevailing in Trinidad; he had sent a full report and Dr. Clarke showed some of the photographs of the disease taken by Mr. Bridger. These spoke for themselves and appeared to represent cases of small-pox.

THE PATHOLOGICAL MUSEUM.

LAST year in noticing this collection we felt constrained to remind our readers of the original intentions of the founders of the Pathological Museum of the British Medical Association and to express regret that these had been allowed to lapse owing, amongst other causes, to the growth and separation of its quondam partner—the Exhibition of Trade Products. We congratulate the secretaries of the Pathological Museum on their attempt to re-establish the museum in the position which it used to occupy, and if the distance of Swansea from the larger teaching centres be taken into consideration the results achieved, with certain reservations to be mentioned shortly, are some of the best that have been accomplished of late years. The arrangements reflected great credit upon the local secretaries, Dr. Daniel E. Evans (Swansea) and Dr. Newman Neild (Clifton), who must have worked very hard to collect, to arrange, to catalogue, and to label (a point specially deserving of mention in this exhibition) the material exhibited. The room selected this year was, it is true, fairly adequate in size and conveniently situated in relation to the meetings of the Pathological Section, but it was some distance away from the central position occupied jointly by the Trade Exhibition and the Reception Room.

The older methods of studying pathology depended upon the observation of disease during life and in the dead house and among these methods the making and preservation of morbid anatomical specimens showing the effects of disease occupied a prominent place. With the introduction of the biological and chemical methods of experimental research into the causes of morbid processes the older methods are in danger of falling into disuse. We were glad therefore to notice that a fair proportion of space in the museum was devoted to wet morbid specimens. But rightly regarded observation and experiment are really handmaids, each checks, corrects, and assists the other in the elucidation of nature's truths and in the combat with disease. To be complete, therefore, a pathological exhibition should embrace exhibits relating both to methods of observation and to the experimental data of bacteriology, chemistry, and biology. The collection of this year, however, illustrated only the former of these two great divisions.

Among the wet specimens was an interesting series of aneurysms chiefly involving the aorta in various situations, exhibited by Staff Surgeon P. W. Bassett-Smith, R.N., (Haslar), and the careful descriptions printed in the catalogue not only added interest to these but helped to explain the obscure and insidious nature of this malady. In No. 8 (an intrathoracic aneurysm of the aorta ruptured into the left pleural cavity) it was mentioned that "the symptoms were obscure, chiefly bronchitis and pain. The course was a chronic one, but death was rapid after the rupture," and this might form a not inappropriate comment on many such cases even when they come under the notice of an acute and accurate clinical observer. Dr. Newman Neild exhibited several specimens from the museum of the Bristol General Hospital. Two of these, Nos. 2 and 26, were the heart and lung from a syphilitic patient. In the first there was a dense band of fibrous tissue compressing the left pulmonary artery and left auricle. The lung showed the extension of the fibrous tissue into its substance. The patient did not improve under iodide of potassium as would be expected in syphilitic fibroid lesions. Syphilitic lesions in these situations are undoubtedly somewhat rare, but probably not so rare as is generally supposed in patients who die from what is called syphilitic cachexia. It was Sir Samuel Wilks who first brought before the profession the connexion between syphilis and fibroid disease of the heart in 1856[1]; and a paper on some other syphilitic changes in the heart wall was published by Dr. Sidney Phillips in THE LANCET in 1897.[2]

Dr. F. J. Poynton (London) and Dr. A. Paine (London) exhibited specimens from animals in which endocarditis and joint lesions of a rheumatic type had been experimentally produced by inoculation with the diplococcus of rheumatic fever and these were accompanied by some exquisite drawings. Several exhibits were contributed from the museum of St. Mary's Hospital, London. One of these, No. 25 (arrested tuberculosis of the lung in a woman, aged 38 years, who died from carcinoma of the uterus), served to raise speculations in the mind as to the incompatibility which is sometimes alleged to exist between these two fatal morbid processes. Mr. W. F. Brook (Swansea) exhibited several interesting specimens mainly of surgical interest. One of these illustrated amongst other things the dangers of a dislocated kidney. It was labeled "pyonephrosis and atrophy of a moveable kidney due to kinking of the ureter, associated with papilloma of the ureter at the entrance into the bladder." The symptoms were chiefly those of cystitis and in November, 1900, a double kink in the ureter, caused by the kidney falling forward and undergoing rotation inwards, was corrected by nephrorrhaphy and in March, 1901, nephrectomy was performed for persistent fistula. The patient was a woman, aged 50 years, and had made a complete recovery.

The space allotted to diseases of the spleen was of interest, especially to those members who had attended the discussion on splenic anæmia in the Pathological Section on July 31st. Dr. R. Salusbury Trevor (London) exhibited six wet specimens of splenic diseases; three of these were taken from cases of splenic anæmia, one from a case of cirrhosis of the liver, one from a case of lymphadenoma, and one from a case of lymphatic leukæmia. Considerable alteration has taken place in our views of these diseases in late years. 1. Lymphadenoma (Hodgkin's disease) has enlargement of the glands, slight anæmia, with leucocytosis, and the spleen is but little enlarged. 2. In leukæmia of the lymphatic variety there is but little enlargement of the glands, but there are marked leucocytosis (due chiefly to increase of the lymphocytes) and definite splenic enlargement. In leukæmia of the splenomyelogenous variety there is no glandular enlargement, but the leucocytosis is characteristic with myelocytes and increase of the eosinophile cells, and very marked splenic enlargement is present. 3. In splenic anæmia there are enlargement of the spleen, progressive anæmia without leucocytosis, and a tendency to hæmorrhage, especially gastro-intestinal; cirrhosis of the liver supervenes with ascites, when the disease corresponds with "Banti's disease." Microscopic sections of the different specimens were also exhibited and demonstrated very clearly the differences of the nature of the splenic enlargement in each case. The sections of splenic anæmia showed fibrosis affecting the reticulum, atrophy of the Malpighian bodies, and widespread endothelial proliferation. The section of lymphadenoma showed great overgrowth of the Malpighian bodies, while the section devoted to leukæmia showed increase in the lymphoid elements of the organ and a diffuse lardaceous change.

Several specimens of tropical diseases were exhibited. Thus No. 80 was a specimen of elephantiasis scroti from India and No. 79 the fifth toe from a case of ainhum (from South-East Africa)—a curious disease affecting the natives of that part in which the little finger and fifth toe on one or both sides of the body become the seat of a progressive constriction which by-and-by results in spontaneous amputation.

[1] Transactions of the Pathological Society of London, 1856.
[2] THE LANCET Jan. 23rd, 1897, p. 223.

The changes in the blood in sprue (mainly nucleation and irregularity of the red cells) were illustrated by a series of microscopic specimens shown by Staff Surgeon Bassett-Smith. He also showed a specimen of the small intestine from a case of sprue in which the intestinal wall was so atrophied as to be almost transparent.

Mr. Jonathan Hutchinson (London) exhibited a series of drawings selected from those added to the Polyclinic Museum during the past year and if the same principle were more extensively followed by others it would greatly add to the interest of the annual museum of the Association. No. 163 represented a tertiary syphilitic eruption on the forehead and illustrated the fallacy of relying on the history of the primary malady in this disease; a history was entirely wanting in this case, though the eruption rapidly disappeared under anti-syphilitic treatment. No. 170 was a sketch of the middle finger of the left hand in which there was a hole through which a cedar-pencil might have been thrust, the parts being otherwise perfectly sound and having been so for many years. The condition was the result of necrosis in early life, several bones having been affected; a shell of new bone had surrounded the necrosed portion with a large cloaca on each side, the history pointing to tuberculosis. The sequestrum was no doubt allowed to remain long in place, and meanwhile a strong bridge of new bone had formed in the palmar aspect which refused to bend backwards when finally the dead portion was taken away. No. 179 was a sketch of a group of lupoid tubercles near a vaccination sore, indolent, hard, of yellowish-brown tint. The patient was vaccinated in April in three places and went to Mr. Hutchinson in October. The spots had appeared soon after the vaccination. His mother had died from pulmonary tuberculosis and a brother suffered from it. The patient had had syphilis three years before and it was supposed that in this case syphilis and tuberculosis co-existed. Certain of the drawings exhibited by Mr. Hutchinson illustrated Eastern diseases and were doubtless collected during his Indian tour. There were several portraits illustrating leukoderma in different races. If to this series another portrait of a case of that curious disease pinta could have been added for purposes of comparison with leukoderma it would have increased their interest.

A large series of radiograms were arranged round the room, exhibiting many varieties of bone disease. The largest proportion of these were exhibited by Mr. Robert Jones (Liverpool) and illustrated coxa vara, various forms of hip disease, fractures, and dislocations. Dr. Alfred Eddowes (London) exhibited several interesting coloured sketches of skin diseases, adopting the commendable plan of placing a sketch of the histological features of the eruption beside a coloured photograph of the patient, though we cannot altogether approve of the cumbrous name selected for one of his cases—streptogenic-necrogenic-folliculo-adenitis. The microscopic appearances of the lesion in this case were somewhat suggestive of acne necrogenica. Both Mr. Hutchinson's and Dr. Eddowes's sketches were neatly labeled with particulars of the cases. If other observers would follow their example and bring forward selected examples from their stores of illustrations they would enhance the value and attractiveness of these annual exhibitions.

We would urge future organisers of the Annual Museum to endeavour to make of pictures a prominent feature in the division relating to methods of *observation*. To the great majority of intellects things seen are much more easily comprehended than things heard or read of, and in quite nine-tenths the visual memory, the memory for forms and colours, is far more retentive than the auditive or other sub-varieties of memory. If to this were added on the *experimental* side bacteriological specimens and their products (briefly and lucidly described), with recent methods and instruments used in serum-therapy; and, finally, if a third department in which a few approved modern scientific methods of treatment, such as the x rays, Finsen's light, or treatment by radium, were exhibited at work, the museum would form one of the most attractive features of the meeting, especially if it were centrally situated in an easily accessible position. It would constitute a valuable addition to the scientific work of the Association and would thus fulfil the beneficent intentions of its founders. It would cease to be a mere receptacle for archives but would become a true pathological collection, speaking of progress to the whole of the medical profession and marking "footprints on the sands of time."

Looking Back.

FROM

THE LANCET, *SATURDAY*, AUGUST 20, 1825.

ST. THOMAS'S HOSPITAL.

Curious case of ('Carcinomatous') Disease of the Heel.

Under the sweeping term Carcinoma, a variety of malignant diseases are classed, without any reference to the true definition of Carcinoma; the disease, however, in the case we are about to describe, has some of the essential characteristics of Cancer.

W. Fry, ætat. 43, a sailor, was admitted on March 31, under the care of Mr. TYRRELL. At the time of admission he had an ulcer about the size of a sixpence on the back part of the heel; the edges of the sore were everted, the discharge was offensive, and the integuments immediately around the part felt tuberculated or knotted. The patient stated that the ulcer was occasioned by his pulling a piece of skin off the heel three months before he came to the hospital; he had tried various remedies with a view of healing the ulcer, but all alike failed in producing any amendment. The knotted bodies in the integuments round the ulcer continued to enlarge: and the present mass of disease about the heel is of the size of a small fist, and consists of a number of round tumours of different sizes, (the largest being of the size of a walnut,) some of them in a state of ulceration, and others approaching to it; these round bodies are very hard, and are so numerous, that at their bases they appear united, but as they enlarge are quite distinct and separate. When the tumours ulcerate, an excavated sore is formed with shelving edges, as if a piece of the tumour had been cut out; the discharge is fœtid, and the sores frequently bleed profusely; the glands in the groin are much enlarged, and the absorbents on the inside of the leg are indurated. The patient's health has suffered much from the disease; he looks cachectic, and has much pain, which prevents him from sleeping.

The treatment employed when he was first admitted into this hospital, was the application of soap plaster and bandage to the heel; afterwards, a strong solution of nitrate of silver; he now applies to the heel a watery solution of opium, and over this a linseed meal poultice, and he takes five grains of Plummer's pill, and one grain of opium every night.

We are not aware of any surgical author who has treated of this peculiar form of disease; it is indeed a disease of rare occurrence, and very few cases have been seen at the Borough hospitals: two or three cases have fallen under the care of Mr. TRAVERS, in one of which, we believe, amputation below the knee was performed, and fungous tumours arose from the stump; the final result of this and the other cases we do not know. We may not have been felicitous in the description of this disease, but there is such a peculiarity in its appearance, that it will scarcely admit of verbal description. It has been said this disease originates from a peculiar structure, which may be found between the tendo achilles and bones of the heel; but we have seen one case in Guy's Hospital in which the disease was in the wrist: it probably has its origin from aponeurotic or fascial structure; like fungus hæmatodes it bleeds profusely, but does not grow in the rapid manner peculiar to that disease, and moreover, the tumours have a scirrhous hardness.

CIGARETTES ON TRAINING SHIPS.—Captain Tufnell of H.M.S. *Boscawen* is endeavouring to check the excessive use of cigarettes among the boys of the training ships at Portland. On several occasions the tobacco shops of the island have been placed "out of bounds," but at the request of the shopkeepers the restrictions were relaxed. Repeated warnings from the authorities were unheeded and eventually the whole of the island was placed "out of bounds." On August 14th a deputation of the district council appealed to Captain Tufnell to remove these restrictions and eventually Captain Tufnell decided to do so, with the exception of public-houses and shops that have tobacco licences. Captain Tufnell informed the deputation that if these privileges were abused all the training ships would be removed from Portland.

THE LANCET.

LONDON: SATURDAY, AUGUST 22, 1903.

The Work of the Government Laboratory.

THE annual report of Dr. T. E. THORPE, the principal chemist of the Government laboratory, contains matters full of interest to the community. To some extent it is an annual index of the nation's integrity, or want of that virtue, for its pages show amongst other things in what direction ingenuity and deceit are practised, and with what measure of success, in relation not only to the Revenue departments but also to the sale of foods and drugs to the public. The work of the Government laboratory has grown enormously during recent years and Dr. THORPE is to be congratulated on the thorough manner in which he and his staff have met the increasing demands on their time and ability. Not very many years ago the work of the chemists of the old Somerset House laboratory referred almost exclusively to matters of revenue. Now at the new Government laboratories in Clifford's Inn-passage, in addition to the special laboratory examinations involved by the effectual control of the Customs and Excise departments, quite a large number of samples are sent in for examination by the great Government departments—the Board of Agriculture, the Local Government Board, the War Office, the Admiralty, the Board of Trade, the Commissioners of Works, the Home Office, the India Office, the Post Office, and Trinity House. During the past year ended March 31st, 1903, no less than 6588 samples were examined at the instance of these departments. Amongst the samples from the Commissioners of Works we may note with satisfaction that a specimen of the water from the fountain basins of Trafalgar-square was examined. We have called attention to the dirty state of the fountains in Trafalgar-square.[1] We hope, now that the matter has been officially inquired into, that a stigma on "the finest site in Europe" will be permanently removed.

The resources of the Government laboratory during the past official year have been somewhat strained owing to the imposition of the Corn Duties in April, 1902, by which not only is duty charged upon raw grain or flour but also upon the numerous manufactured products derived from cereals and used both for food and for industrial purposes. In the Excise section, again, increased work was occasioned by the examination of the materials used in the brewing of beer with regard to their possible contamination with arsenic. It is satisfactory to find that of 1173 samples of beer wort and brewing materials tested the great majority were either quite free from the poison or contained only traces. In 44 instances, however, the amount was so notable that the brewers were informed, in the case of materials, that they should not be used, and, in the case of wort or beer, that the product should not be sent out for consumption. In this connexion a sample of a substitute for hops, known as "hop compo," proved to contain not only a quarter of a grain of arsenious oxide per pound but also 35 grains of oxide of antimony. It was subsequently discovered that the maker of this compound was a druggist who did also a large business in veterinary medicines and that some of the vessels used in making "horse powder" had been used in making the hop substitute. Hence the antimony. This special branch of analytical work has led Dr. THORPE and his assistants to devise a special apparatus for the estimation of small quantities of arsenic. The method, depending upon the electrolytic production of hydrogen, has been described in THE LANCET.[2] The work of control carried out by Customs officers is reaching such a state of efficiency that they are even equipped with physical apparatus for determining sugar. Thus sugar, both imported and exported, is now tested locally by officers instructed in the use of the polariscope at most of our important ports. The local tests are checked by the selection of certain of the samples for control testing in the head laboratory, and the results of these tests show that the testing at the out ports is satisfactory.

In regard to sugar and molasses in particular the Government laboratory report this year forms, we think, an interesting commentary upon the statements which the Chancellor of the Exchequer made in answer to questions put to him during the last Parliamentary session touching the subject of false description in the spirit trade. Mr. RITCHIE, in the House of Commons on May 18th,[3] was asked by Sir EDWARD STRACHEY the following question: "Whether he was aware that German spirit made from potatoes and roots was imported into this country and sold as Scotch or Irish whisky and that under the existing methods of supervision any potable spirit, German or otherwise, could be made up and sold as genuine whisky and that English spirit made largely from molasses was shipped from this country to France and returned and sold as brandy." To this Mr. RITCHIE replied: "I am aware that allegations in the sense indicated have been made, but I have no official knowledge that would enable me to confirm or to refute such allegations." Dr. THORPE, writing as the official chemist to the Government, now states on p. 2 of his report (which, be it remembered, relates to the official year ending March 31st, 1903): "In consequence of the duty on grain an additional penny per proof gallon was placed upon plain spirits and compounds (such as imitation rum) made therefrom. Much of the so-called 'brandy' also consists mainly of plain spirit from grain or potatoes flavoured to represent more or less closely the genuine article." Again, on p. 6 of the report he writes, "These [referring to molasses] are sent from British refiners to distillers in the United Kingdom." The "allegations" of which Mr. RITCHIE said that he had no official knowledge that would enable him to confirm or to refute them, were at the time known to be well founded by the principal chemist of the Government laboratory. Dr. THORPE further states in regard to molasses that "all the samples

[1] THE LANCET, May 30th, 1903, p. 1537.

[2] THE LANCET, May 23rd, 1903, p. 1469.

[3] THE LANCET of May 23rd, 1903, under Parliamentary Intelligence, p. 1490.

examined were found to be satisfactory." Now it is well known that beet molasses contain a very large percentage of substances of a basic and quasi-alkaloidal nature. Only recently a short communication was presented to the Royal society by Dr. A. D. WALTER and Mr. H. G. PLIMMER which showed conclusively that beet sugar contains a decided amount of betaine which has a well-marked though not very powerful poisonous action. If that is so, however, in regard of beet sugar it is more than likely that the residues or dregs of beet sugar—that is beet molasses—would contain a still larger quantity of these poisonous basic or alkaloidal substances. As a matter of fact, commercial betaine was found to be much more active than pure betaine. Moreover, these toxic substances pass over with the spirit during distillation, from which it is impossible to remove them by any known process. The Government laboratory report is silent upon this important point; it is only stated that the samples were found to be satisfactory and we take it that this means from the point of view of revenue. But it is clearly just as important to examine for toxic substances the materials which Dr. THORPE admits are used in the manufacture of potable spirits as it is to examine brewing materials for arsenic.

No less than 33,370 examinations were made at the laboratory in Clement's Inn-passage, 18,049 in the Excise Chemical Station, and 141,779 in the laboratory at the London Customs House. Nor is the work confined to mere testing operations for revenue purposes or for the purpose of reference. During the past year at any rate the work of the Government laboratory has included the examination of filters for the Board of Trade, the investigation of pottery glazes for the Home Office, and an inquiry also undertaken on behalf of the latter department bearing upon the character of the products of combustion in gas- and oil-stoves. This latter investigation brought to light the interesting and important result that the production of carbon monoxide was considerably greater in the oil-stoves than in two out of three gas-stoves submitted to examination. Lastly, the public analysts of this country may be congratulated upon the fact that of the samples of food and drugs examined by them and referred to the Government laboratory by magistrates the results were in agreement in regard to 78 out of the total of 95 cases in dispute. It is a great gain to the community that the relations between the public analysts and the Government referees are much more satisfactory than they used to be, and that the old quibbles about the merits of the different analytical methods adopted have happily ceased to exist. We attribute this excellent result to the generous and scientific spirit which the principal chemist of the Government laboratory has always shown to those public officials who with him are concerned in making effective a very important section of the administration of the country.

The Possible Dangers of Tube Railways.

THE possibility of the disaster which took place in the Paris underground railway had been foreshadowed, but while there is the risk of a train catching fire in tubes by the short-circuiting of the current the cause which gave rise to the great calamity that so recently shocked the world could have been easily avoided. We feel confident that an engine driver in the London tube railways would never be allowed by means of a train containing a complement of passengers to drive through the tunnel another train that was admittedly broken down and in which already unmistakeable signs of electric leakage were obvious. That someone committed a serious error of judgment in the Paris disaster seems fairly certain. The driver denies that he acted on his own initiative, and full inquiry will, we trust, determine on whose responsibility such a disastrous step was taken. But though we can hardly conceive a tragedy being brought about in the London tube railways in exactly the methods employed in Paris, yet it cannot be too plainly brought home to those responsible for the management of our undertakings that the catching fire of the train is a contingency which should be provided against in every conceivable direction. In saying this we bear in mind how excellently and with what marvellous freedom from serious mishap the management of the Central London Railway has been conducted. During its short and successful career millions of lives have been safely intrusted to the care of its employés. We cannot, however, ignore the serious results to which electric potentialities may give rise to a tunnel in which there is no more space to spare than that which the train occupies. There is little doubt that many lives would have been saved in the Paris accident if the lights had not been extinguished and if there had been better provision for making exits. The Paris railway is, again, a shallow one and the tubes of London are deep, and in them therefore the difficulty of constructing exits would be greater. These points, we venture to think, were sufficiently emphasised in an exhaustive article upon the subject which appeared in the columns of THE LANCET almost exactly a year ago.[1]

From this article we take the following excerpts which, it must be admitted, bear very strongly upon recent occurrences and modern speculation:—

> Much has been said in committee as to the desirability of side doors to the cars and side tunnel platforms for use in any emergency. ..... Doors at each end of the train with a centre platform are suggested in preference, but should a train be derailed and collide with the sides of the tube few, if any, of these doors will open. It would be one more chance in the passengers' favour when the train was on fire if all such doors were skeleton ones filled in with some fabric which could be easily cut through with a penknife. ..... The possibility of a fracture in the tube itself admitting water and thus setting up electrical connexion between the wreckage and the broken cables underlying the fractured platform [of the train] might form an unpleasant feature in an accident. In a recent case at the West-end of London the accidental fracture of a water-main resulted in the setting up of a short electric circuit in one of the public supply cables, the effect of which was to boil the escaping water in the short space of time that elapsed between the accident and the fusing of the out-out on the cable. ..... It is to be hoped that the current supplying such lights [for the lighting of the tunnels] will be generated and conducted by a system entirely independent of that supplying motive power. ..... The same may be said of the signals. ..... Colonel Yorke in his evidence before Lord Windsor's committee anticipated little difficulty

[1] THE LANCET, August 25th, 1902, p. 544.

in guarding against this evil [fire] if the use of wood were avoided near cables and electrical machinery, or if, where used, it were protected by some non-combustible material—in fact, he advocated the general use of non-combustible material for all trains, stations, signal cabins, and other deep-sunk buildings. If wood must be used for sleepers owing to their lessening vibration they should not be creasoted but rendered non-inflammable. Compressed asbestos will probably take the place of the lighter woodwork. This is all very satisfactory while all goes well, but in the event of an accident the various components of a carriage will be apt to rearrange themselves and live cables may form unexpected connexions. In providing against fire the forced draught which is now proposed to use for ventilating the tunnels will always drive the flames in one direction, which is a factor worthy of consideration in providing means of exit in such an event. ..... Should the train catch fire and there be but one exit available at the end a ghastly holocaust would result, while the panic would be too awful to contemplate. The smoke from creasoted sleepers might in such a case prove a merciful deliverance from suffering.

The two last sentences, written a year ago, describe closely what happened in Paris on August 8th, 1903. We do not, however, quote it or any other passage from our file of last year out of desire to say "We told you so." Our idea is that anyone who gave the matter adequate and independent thought, and who was not prepared to follow the lead of interested persons, might have come to the same conclusions as we did as to the possibility of tragic accidents. What we would insist upon is that the occurrence of these accidents must be guarded against by all possible precautions and that the public must not allow themselves to be pooh-poohed out of reasonable apprehensions.

Some Lessons of the London Small-pox Epidemic.

IN THE LANCET of August 8th (p. 377) we published a valuable paper by Dr. J. E SANDILANDS on the vaccination statistics of the Metropolitan Asylums Board in connexion with the recent exceptional prevalence of small-pox in London. Having for a considerable time occupied the position of assistant medical officer in actual attendance on patients in the hospital ships at Dartford Dr. SANDILANDS writes with high authority concerning the behaviour of small-pox, both in vaccinated and in unvaccinated persons, during the last two years, and he has utilised his unique opportunities for observation in a way that should carry conviction to unprejudiced minds as to the paramount we may say exclusive, power of vaccination as a prophylactic. From the Registrar-General's return for the administrative county of London, published on the responsibility of Mr. SHIRLEY F. MURPHY, we learn that the recent small-pox epidemic in the metropolis was nearly, though not quite, coterminous with the period under notice in Dr. SANDILANDS' paper—viz., the years 1901 and 1902. In the first quarter of 1901 seven cases of small-pox were notified and in the last quarter of 1902 the number was 43. Although in the second quarter of the present year there was a slight increase in the number of reported attacks, it nevertheless remains true that the chief force of the epidemic was expended within the two previous years. During 1901 and 1902 there occurred 9496 cases within the administrative county, but the total coming under hospital treatment exceeded this number by 163; presumably, therefore, a few additional cases were admitted to hospital from districts outside the county boundaries. It is with the larger total—namely, 9659 patients that we are now concerned.

Dr. SANDILANDS prefaces his analytical remarks with the statement that the last two annual reports of the statistical committee of the Metropolitan Asylums Board furnish one of the most valuable contributions hitherto published respecting the question of vaccination and small-pox. Dr. SANDILANDS is very kind to the compilations which have formed the source of his paper. The reports do contain, after a fashion, the facts thus courteously acknowledged—this appears from Dr. SANDILANDS' own analysis, which is avowedly founded thereupon—but the information is scattered through the volumes in such a way as not to allow of ready interpretation unless at the hands of one endowed with the necessary skill. Hence the desirability of an analysis from some one experienced in the tabulation of figures. At first sight it may seem that a total of nearly 10,000 cases of small-pox carefully observed and systematically charted would furnish sufficient material for detailed examination. But a glance at the paper shows that in order to turn to the best account the available data it is necessary to distribute the total over a dozen or more groups of very unequal size, so that the numbers in, at any rate, some of the groups are so small as to require an awkward combination of classes; but this must be done in order to obtain numbers sufficiently large to warrant practical conclusions. One of the commonest fallacies into which inexperienced inquiries fall is the habit of straining conclusions from numerically inadequate data, and the internal evidence furnished by Dr. SANDILANDS' paper of his recognition of this danger will secure for his deductions confidence at the hands of his professional colleagues.

In a series of well-arranged tables he illustrates the following among other points: (1) the age incidence and relative fatality of scar-bearing vaccinated cases; (2) the classification of vaccinated cases according to the character of the scars; (3) the proportional mortality among scar-bearing cases, arranged with respect to age periods and character of scars; and (4) the comparison of the mortality among cases showing plain scars with that of cases with foveated scars. It is necessary to explain with reference to the use of the expression "mortality" that it must be taken to mean not the deaths from small-pox in terms of the population but simply the percentage of deaths to cases coming under treatment. The figures in the Asylums Board reports emphasise the same lesson that has been taught by previous small-pox epidemics, which is that the incidence of attacks is overwhelmingly greater during childhood than in later years, the mortality at the earlier ages in the recent epidemic having averaged from 20 to 50 per cent. of the cases treated. We desire to commend Dr. SANDILANDS' remarks on each of these points to the notice of our readers. We wish that they could receive the earnest consideration of those among the anti-vaccinationists—for there are such—who are honestly anxious to

ascertain the truth concerning vaccination and its power of controlling the terrible ravages of small-pox.

Annotations.

"Ne quid nimis."

THE ILLNESS OF LORD SALISBURY.

THE bulletins with regard to the health of Lord Salisbury have to some extent been of a reassuring character during the week. There need be no attempt to conceal the fact that the distinguished statesman's illness is a very grave one, but the cardiac and pulmonary symptoms associated with Bright's disease are often temporarily more urgent than the general condition would appear to warrant. Lord Salisbury's 73 years have been very full ones, so that his reserve strength must necessarily have been sorely tried, but too much significance need not be laid upon this. It is sometimes the man who has led the most onerous life who makes the best fight against physical adversity and the patient's condition during the last two or three days has been of a more satisfactory character.

THE METROPOLITAN WATER-SUPPLY.

THE report on the condition of the metropolitan water-supply for the month of June has lately been issued by the Water Examiner. It deserves the careful study of the members of the London Water Board and we would particularly direct their attention to the report of Dr. T. E. Thorpe, F.R.S., the analyst to the Local Government Board, and to his record of the chemical quality of the water which has been distributed by the companies. The Thames water at Hampton, Molesey, and Sunbury was in good condition from the 1st to the 10th and from the 20th to the 30th days of the month. On the remaining days—that is to say, from the 11th to the 19th—it was more or less coloured and turbid. The engineer to the Chelsea Waterworks Company described the state of the water as "indifferent" on the 11th, 12th, and 19th, and "bad" from the 13th to the 18th (both days inclusive). The level of the Thames river water varied from a point 5 feet 6 inches above to one 7 inches below the average summer level. At West Molesey the total rainfall during the month was 6·63 inches. From the Thames the daily average supply delivered was 123,125,601 gallons, from the Lee 45,853,703 gallons, from "springs" and wells 51,201,482 gallons, and from Hampstead and Highgate ponds 253,782 gallons. The total daily average was 220,434,568 gallons for a population estimated at 6,509,419, which represents a daily average consumption per head of 33·86 gallons. The Chelsea, the East London, and the West Middlesex companies gave a larger and the remaining companies a smaller supply per head than that which was distributed during the corresponding month of the previous year. Dr. Thorpe made full analyses of the supplies of the seven companies which deal with river water, these specimens being taken on the 15th, and of a sample of the Kent Company's supply which was taken on the 16th. It was found that the relative amount of organic impurity which existed in these samples is correctly represented as follows: Kent, 9; New River, 11; Chelsea, 34; West Middlesex, 41; Southwark and Vauxhall, 41; Lambeth, 44; Grand Junction, 46; and East London, 52. Later in the month, on the 23rd, specimens of the water supplied by the Southwark and Vauxhall, the Grand Junction, and the Lambeth companies were examined. The results of this second series of analyses are remarkable. The relative amount of organic impurity in the Lambeth water had risen from 44 to 77, that of the Grand Junction from 46 to 88, and that of the Southwark and Vauxhall from 41 to 120. Dr. Thorpe rightly describes these specimens as of "very unsatisfactory quality" and he goes on to say: "The Southwark Company's water was by far the worst and from a search through the analytical records it appears that not since February, 1869, has such a large amount of organic matter been observed in a filtered London water." In regard to the colour of the water distributed, that of the Chelsea, West Middlesex, and Southwark and Vauxhall's supplies on the 15th was "very pale yellow," that of the Grand Junction and Lambeth Companies was "pale yellow," and that of the East London Company was "yellow." On June 23rd the Grand Junction and Lambeth Companies distributed "pale brown" water, whilst that of the Southwark and Vauxhall was "dark brown in colour." The report of the Water Examiner contains the following cryptic sentence: "All the samples of water collected at the works of the companies, though highly coloured in some instances, were clear, bright, and free from suspended matter." This sentence requires elucidation. On whose authority is it made? Who collected the samples? On what dates were they collected? Who examined them? As it stands the paragraph is liable to mislead the reader or to puzzle him needlessly. Is water of "dark brown colour" at the same time "clear and bright"? Or were samples only taken on favourable occasions? A paragraph similar to the one we have quoted appears month after month in the report of the Water Examiner and we ask, not for the first time, for an explanation of it. Dr. Thorpe's report shows clearly that the plant possessed by some of the water companies is not capable of dealing with the flood water of the Thames and we must congratulate him on having at length displayed in an official report a point on which we have so often insisted.

POOR-LAW v. CHARITY ORGANISATION.

THE shortcomings of the Poor-law afford a prolific theme to all concerned with the handling of relief funds, whether as contributors, distributors, or recipients, and many well-intentioned persons have as a natural consequence instituted invidious, and occasionally unfair, comparisons between the methods of dealing with destitution which are sanctioned by the legislature and those employed by private charitable agencies. In sundry papers and letters Sir W. Chance, who is well known as a Poor-law reformer, has attempted to show how superior to the ordinary routine of boards of guardians is the procedure of charity organisation societies, and especially of the London society of that ilk. The points he makes are several. In the first place, he maintains that applications for relief are much more thoroughly investigated by the officials of the societies than by the relieving officers and relief committees of the guardians. He considers that the members of the charity organisation committees are by inclination and training more competent to deal with the problems of poverty than are guardians, and that since the societies have, as far as their resources permit, a free hand they can adapt the relief granted, both as regards its nature and its extent, to the necessities of the case in a way that guardians cannot do. Further, he credits the charity organisation societies with exercising greater supervision and with bringing greater moral pressure to bear upon the friends and relatives of those receiving aid so that no unnecessary expense is incurred. As a result of all these precautions he claims that a substantial advantage is gained in that the individual assisted suffers less deterioration of character when dealt with by the Charity Organisation Society than when appeal is made to the tender mercies of a board of guardians. There is, as we are constantly indicating, plenty of room for improvement in the arrangements for supplying the needs of the indigent, but it is doubtful whether the lines along which

"charity organisation" proceeds are capable of being followed in the administration of the Poor-law. People are apt to overlook the fact that the ends are different in the two cases. Something, of course, the two methods have in common and, in so far as Poor-law officers fall short of the high standard which on rather insufficient grounds Sir W. Chance describes the societies as attaining, this is due to the much larger number of cases with which guardians and their officers have to deal. But a parting of the ways is soon reached, owing to the fact that whereas a private corporation may, if it so please, treat as "undeserving" any particular section of the community a board of guardians would not be fulfilling the duties which the law has allotted to it if it attempted to disregard on sentimental grounds the demands of even the most unworthy. Offenders against conventional morality cannot be left to starve, if only for the simple reason that the starving are a standing menace to the community that includes them. It is because voluntary charity did not suffice to meet the needs of the position that we have a Poor-law system, and this system is a political rather than a charitable one. The poor-rate is an instrument of intra-national defence on a par with the military and naval estimates, upon which depend international safety. Until we employ the lethal chamber for the disposal of such of the unfit as are not sufficiently picturesque to excite popular sympathy we must have funds provided by the State to fill the gap which is left by the charity organisation societies, and while there is room enough for these they show no signs of rendering Poor-law establishments superfluous.

PRIMARY TUBERCULOUS ENDOCARDITIS DIAGNOSED DURING LIFE.

TUBERCULOUS endocarditis has been found at necropsies. It has been regarded as a rare lesion which may occur in cases of tuberculosis of other organs but has never entered into the sphere of the clinician. At the meeting of the Société Médicale des Hôpitaux of Paris on July 3rd M. Braillon and M. André Jousset related a most important case under the care of M. Babinski in which tuberculous endocarditis was for the first time diagnosed during life by examination of the blood. Moreover, the tuberculosis was primary and accompanied by "tuberculous septicæmia" and the patient died from the cardiac lesion. Previously it was taught that in tuberculous endocarditis the patient died with the lesion, not from it. A male nurse, aged 22 years, was admitted to hospital on Jan. 2nd, 1903. Since Dec. 26th, 1902, he had been suffering from lassitude and fever. There was marked dyspnœa; the respirations were from 60 to 65 and shallow. Examination of the lungs was almost negative. Only some disseminated extremely fine subcrepitant râles were heard at the middle and posterior part of the chest. The sounds of the heart were very muffled. The temperature oscillated between 100·4° and 103·6° F. and the pulse between 80 and 90. The urine was albuminous. From Jan. 10th to 15th there was polyuria, the quantity of urine passed in the 24 hours varying from three to four litres and the albuminuria disappeared. Then the quantity of urine passed became normal. On the 15th a slight systolic murmur was heard at the cardiac apex. It gradually became more intense and by the 22nd assumed all the characters of a mitral regurgitant murmur. On the 18th the dyspnœa began to diminish and by the 22nd the respiration was normal. On the 24th the morning and evening temperatures were 100·4° and the pulse fell to 60. The improvement was maintained until Feb. 1st, when the fever reappeared and became continuous, but the respiration remained normal. From the 12th to the 26th the large joints of the upper limbs were spontaneously painful and very tender on the least movement. They were neither red nor swollen. On the 20th there were cough, muco-purulent expectoration, and large subcrepitant râles. On the 26th the patient had a "stitch" in the right side and at the right base there were numerous fine subcrepitant râles and slight dulness. Then the case took a new aspect. The temperature, which had gradually fallen since Feb. 15th, remained permanently below 100·4° after March 5th, while at the same time the frequency of the pulse increased until it reached from 120 to 140. The quantity of urine fell to from one-half to three-quarters of a litre in the 24 hours and there was much albumin in it. On the 12th œdema of the legs began. The liver extended below the ribs and the apex of the heart was displaced downwards and outwards. There was dyspnœa but of a different kind to that previously described. The respirations were from 30 to 40; inspiration was deep and difficult, all the inspiratory muscles being contracted to the maximum. There were nocturnal attacks of suffocation. All over the chest large subcrepitant râles were heard and were accompanied by slight dulness. The dyspnœa became so extreme that the patient passed the days and nights seated in a chair, his face cyanosed and covered with cold perspiration. Death occurred on March 30th. The diagnosis was very difficult. Tuberculosis and typhoid fever were suggested; the latter was excluded by the evolution of the attack as well as by the serum reaction. Blood obtained by puncture of a vein on Jan. 22nd, Feb. 15th, and March 27th yielded the tubercle bacillus on cultivation and guinea-pigs inoculated with the fibrin contracted tuberculosis. At the necropsy on the patient the absence of tuberculosis from all the viscera except the heart was proved by microscopic as well as by macroscopic examination. There were extensive pleural adhesions. Scattered through the lungs were numerous infarcts. The heart was hypertrophied. The aortic and mitral and tricuspid valves showed vegetations which contained the tubercle bacillus. The liver, spleen, and kidneys were swollen from passive congestion. This case shows the value of bacteriological examination of the blood in tuberculous patients suffering from endocarditis and in patients apparently not tuberculous suffering from endocarditis the nature of which is obscure.

THE FRAUENSPITAL AT ZÜRICH.

HOSPITALS may be classified in various ways according to the systems on which they are conducted and the purposes which they are intended to serve. They may, for instance, be either general or reserved for special forms of disease, they may be supported either by voluntary contributions or out of the rates, they may be free to all who obtain admission or they may receive both paying patients and non-paying patients. Some admit only males, some admit only females and young children, and others, like seamen's hospitals, are practically restricted to certain classes of the population. In another column (p. 561) of our present issue we publish an account of a hospital which combines a variety of special features. Its principal departure from British ideals consists in the fact that only paying patients are received, although a large part of the funds required for establishing it were raised by voluntary subscription. In this country the existence of a subscription list would almost necessarily imply at least a preponderance of free admissions as compared with the number of paying patients and some administrative ability would be required to make the dual arrangement work harmoniously. The hospital in question has about 60 beds and is situated in the immediate vicinity of Zürich, a city of about 150,000 inhabitants and the principal centre of population in Switzerland. It is for females only and the majority of the cases are either obstetric or gynæcological. The patients' payments vary from two francs to ten francs per diem and 718 patients were admitted during 1902. In different countries

there are considerable divergencies in national temperament and national usages. In the British islands the majority of patients who can afford it prefer to be treated in their own homes by their own medical attendants unless their presence at home is a source of danger to their environment, but it must be admitted that in a smal proportion of cases, chiefy surgical operations, this arrangement presents problems of considerable difficulty. Too often a solution is found by a patient, who would resent any imputation of poverty, obtaining gratuitous treatment in a hospital. As an alternative to hospital abuse of this kind, and keeping in mind the fact that in continental towns joint occupation of a house by several families is more common than here, there is perhaps something to be said in favour of the system described by our correspondent, but we do not think that there is much probability that it will become popular with Englishwomen. The very poor would be unable to meet the expense and those who are better off would prefer to take to bed at home.

THE PREVALENCE OF SMALL-POX.

CASES of small-pox are still occurring with undesirable frequency in the north of England. South Shields, Durham city, and West Hartlepool all report cases and 6 cases have been reported at Burton-on-Trent. According to the *Liverpool Echo* of August 14th a small-pox panic prevails at Forest Hall, a village four miles from Newcastle. Trade is described as being at a standstill, 2 deaths have occurred from the disease, and the undertaker who buried one of the victims has been himself attacked. People are crowding to the medical officer to be vaccinated. As a contrast to this a case is reported from South Shields, the patient being an unvaccinated child for whom a certificate of exemption had lately been obtained. The father of the child, being a strong anti-vaccinationist, refused to have the other members of the family vaccinated. Five of his other children had never been vaccinated. The affected child was removed to the hospital on August 12th. At the meeting of the Bristol board of guardians held on August 14th it was reported that from July 1st to Dec. 31st, 1902, 4601 births were registered in the Bristol district; of these, 2884 were successfully vaccinated, 20 were insusceptible of vaccination, 99 certificates of exemption were granted, 456 died unvaccinated, 186 were medically postponed, 399 were removed to other districts, and 557 cases were unaccounted for. At the meeting of the Clutton (Somersetshire) board of guardians held on August 14th it was reported that during the last six months of 1902 387 births were registered in the four districts of the union and of that number 281 had been successfully vaccinated.

EXPLOSIVE CIGAR-HOLDERS.

AT the Mansion House police-court on August 19th a hawker was charged with trying to obtain money upon false pretences. A detective said that the prisoner came up to him in Cheapside and offered a cigar-holder and a cigarette-holder for 6*s*., saying that it was made of amber and gold. Witness told the prisoner that he was a police officer and that he should take him in charge, for the cigar-holder was merely made of celluloid. On the prisoner was found a number of bills relating to the holders, the price being from 1*s*. to 1*s*. 3*d*. each. The detective added that the articles could be obtained for that price in Houndsditch and were made of very inflammable celluloid. A match was applied to the articles in court and they immediately blazed up. The prisoner was discharged. Without going into the question of whether or no it is trying to obtain money by false pretences to ask 6*s*. for two amber-and-gold holders which cost about 1*s*. each and are made of celluloid, it is, at any rate, no worse than to sell grain spirit made in Hamburg or Liverpool as "Fine Old Highland Whisky." But the unrestricted sale of articles made of celluloid, which is practically gun-cotton, for any purpose whereby such article is liable to come into contact with fire should on no account be allowed. We have upon many previous occasions referred to the dangers attending the use of celluloid combs, but a celluloid cigar-holder is far more dangerous. Such an appliance might easily catch fire from the match when the cigar was lighted or relighted, and also from the cigar if it were smoked to the end. In that case serious injury or blindness might be the lot of the smoker. Celluloid has its uses, but one of these is not as a cigar- or cigarette-holder.

THE CASE OF DR. LACHLAN GRANT.

THIS case has taken another step. The Ballachulish Slate Quarries Medical Club brought an action against the Ballachulish Slate Quarries Company, their manager, and their medical officer (Dr. Lachlan Grant) to have it declared that the company and the manager had no power to enter into the agreement with the medical officer under which Dr. Lachlan Grant had been dismissed from the quarries and interdicted from practice. Lord Kincairney in the Outer House of the Court of Session has, however, found the intervention of the Ballachulish Slate Quarries Medical Club irrelevant. No doubt Lord Kincairney's law is thoroughly good, but again in this unfortunate case law is on one side while justice and good sense are on the other. Ought it to be irrelevant for the medical club who pay the medical officer and who are attended by the medical officer to claim a voice in selecting the medical officer?

THE FUTURE OF PREVENTIVE MEDICINE.

AN address delivered at Bradford on July 9th before the Sanitary Science and Preventive Medicine Section of the Twenty-first Congress of the Sanitary Institute by Professor T. Clifford Allbutt as president of the section contains some highly interesting and suggestive speculations regarding the rôle of disease as a biological factor in racial development and the position of the physician in relation to it. Since the time of the Greeks it has been by some urged against the work of the physician that by mitigation of the effects of disease, especially incurable disease, useless lives are extended and the survival of bad stocks which might otherwise die out is promoted. In other words, the physician, though working in the interest of individuals, may in the long run serve an evil purpose in society. This reproach has in modern times been revived in terms of Darwinism and the physician is regarded as promoting the survival of the unfit. Professor Allbutt very ably combats the theme that disease is to be regarded as ultimately beneficial to mankind; he points to the indiscriminating character of the incidence of disease, and shows that though in the long run its effects may have been greatest on the weaklier members, yet by its results of maiming or enfeebling, since its immediate effect is not in all cases to kill, it tends to increase the army of weaklings, or, to quote Professor Allbutt, "Who are the maimed, the deformed, the degenerate, whose survival is from a zoological point of view to be deplored? Are these cripples the gifts of the physician or the pensioners of our war with disease? To proclaim that by preventive medicine we can improve all bad stocks up to the present mean value and fertilise the good ones to be fruitful infinitely above the mean is more than I have dared to suggest, but I do call upon this congress to declare that public health will do it better and more permanently than public disease can do it." The work of preventive medicine can be only beneficial, for it includes among its aims the study of the origin of the weakling and the degenerate, since even unfitness has its

causes, and to prevent their action is better "than to look to blind and violent readjustments after the extrinsic degenerative causes have done their work."

SURRA IN THE PHILIPPINE ISLANDS.

A REPORT upon Trypanosomiasis of Horses (Surra), by Dr. W. E. Musgrave and Mr. N. E. Williamson, has been issued by the Government laboratory, Manila. A good account of the disease is given and is illustrated by plates. The important discovery is made that some of the rats in Manila Harbour were infected with the horse trypanosoma, and that the parasite was not the ordinary rat trypanosoma was proved by inoculation experiments. Dr. Musgrave and Mr. Williamson consider that all biting insects and flies should be regarded as possible carriers of the infection until further investigation has shown what species are concerned in the transmission of the disease. It is expected that by proper quarantine laws and by enforcing efficient sanitary regulations it may be possible to stamp out the disease.

SAFEGUARDING OUR MILK-SUPPLIES.

IN view of the increasing attention which is being bestowed by sanitary authorities upon our milk-supplies in order to insure the purity of this important article of diet the announcement that the National Physical Laboratory will verify the correctness of the apparatus used for milk analysis is of importance. The committee states that it is prepar to receive, for the purpose of verification, the pipettes, measuring glasses, and test-bottles used in the Lister-Gerber and other similar methods of testing milk. A circular has been issued detailing the limits of accuracy and general conditions respecting the apparatus to be tested and can be obtained on application to the Director of the Laboratory, Bushey House, Teddington. The fees charged are extremely moderate and it is to be hoped that analysts, manufacturers, and others will avail themselves of these facilities.

THE INTERNATIONAL FIRE EXHIBITION AT EARL'S COURT.

To all who are interested in the saving of human life the International Fire Exhibition at Earl's Court will prove instructive and attractive. The realistic representation of a fire and the means by which people are conveyed from a third-floor window through the flames safely to the street below is not only a sensational theatrical triumph but it is a useful object lesson. The spectacle having been enjoyed, the technical details which form the reason of the exhibition must be examined. Here will be found all manner of devices for the prevention as well as for the extinguishing of fires. There is patent metallic lathing for the making of floors, partitions, &c., instead of using the highly inflammable wooden laths now generally employed. There the self-supporting ceilings and staircases that will not stumble and fall when attacked by fire, wood chemically treated so that it will not burst into flames, and fire-resisting plaster. The building of theatres and stages, to that the danger of a conflagration may be reduced to a minimum, is also carefully studied, and there are many varieties of chemical fire extinguishers, carbonic acid gas extinguishers, hand extinguishers, and other contrivances that may be used effectively by anyone who happens to be present at the commencement of a conflagration. where are likewise various assortments of tissues and cloth used for curtains, drapery, or clothes that are not inflammable, and these should greatly reduce the dangers of fires at theatres and other places of entertainment. The injury done, and fires occasioned by, lightning constitute quite a little section in itself. Here the Royal College of Surgeons has sent the tattered fragments of the clothes that were stripped from a man struck by lightning and carried across a field in a straight line to a distance of 22 yards. Of course, there are ambulances, stretchers, and medical and first-aid chests for the treatment of those who are burnt or wounded at fires. Naturally the fire-engines and fire-escapes have a great share of the space, particularly as the questions involved are treated historically, and we have not only specimens of the most recent appliances and improvements, but also of many of their oldest and most clumsy predecessors. The importance to us of such an exhibition is shown by the fact that the number of fires in the metropolis has during the period of 1891-1901 increased in the proportion of 27·4 per cent., though the increase of population is estimated at only 7·7 per cent. With these figures before us, and a vivid recollection of the recent terrible and fatal fire in Queen Victoria-street, it is disappointing to find that there seems to have been no recent improvements effected by British manufacturers of fire-engines or fire-escapes. Messrs. Merryweather have, it is true, one motor fire-engine, but for motor and improved fire-escapes we must go to the German section. Here we have imposing machines with motor or horse traction that can travel at the rate of from 10 to 15 miles an hour and stop in a distance of a yard or two. The fire-escapes are worked by power, compressed air, or carbonic gas. With marvellous speed they can extend their ladders to a height of from 80 to 90 feet. The Sheffield and other British corporations are, we understand, buying these German machines because nothing similar is made in England. Indeed, the Germans have taken an enormous amount of trouble to show their proficiency at this exhibition and should render us great service by enabling us to realise that, especially in regard to fire-escapes, we are behindhand and must make renewed, more intelligent, and greater efforts.

THE IMMIGRATION REFORM ASSOCIATION.

"The object of the Immigration Reform Association is to organise and render efficient the widespread feeling which is known to exist in the country in favour of checking the immigration of undesirable aliens." This we learn from the prospectus of the association which has reached us, accompanied by a number of small pamphlets setting forth in detail the wickedness of alien immigrants. These booklets are attractively bound in paper covers of various colours after the manner of the fairy books of Mr. Andrew Lang. Thus we have "Fraudulent Aliens" in a blue covering, "Criminality among Aliens" in red, "Aliens and Overcrowding" in yellow, and "Aliens and Vice" in pink. The association asks for countenance and assistance, and especially for funds, to place their pamphlets before the public "throughout the kingdom." Some of the literature provided is not of a kind which should be generally disseminated. It does not appear that the association has formulated any legislative proposals, but we learn that some proposals "are receiving the most anxious attention of the committee," which, it may be noted, contains something like 60 Members of Parliament. It does not seem, however, that the committee have made much progress in the construction of a "platform." They have decided what they will not support in the following words: "Whatever form the proposed legislation may take it would not in any way interfere with the cherished right of asylum for political offenders nor prevent the settlement in the country of those immigrants who are likely to prove a desirable addition to the population." But how are we to discriminate between a genuine political refugee or a harmless visionary reformers on the one hand, and a black anarchist or a degraded *soutenew*, on the other The inquiry of Mr. Charles Booth has brought out clearly enough the fact that the standard of order enforced by the police differs widely in different parts of the metropolis. This was, of course, a thing

quite familiar to the few who knew London well, but it has now definitely been put on record. The police standard represents more or less the views of the inhabitants of a given locality and is actually regulated by the orders which they receive from their officers. At the present time it is notorious that many parts of London are inadequately supplied with police and consequently in the present circumstances it is impossible that these districts should be kept in proper order. It is necessary for the well-being and for the safety of London that all parts of the town should be under complete and efficient police protection and the quarters occupied by poor aliens should by no means be neglected in this respect. This is a matter of much more importance than the statement made by the Immigration Reform Association to the effect that "alien immigrants have ..... been the cause of financial ruin to numerous English retail traders." "There is," we are told, "serious danger of anti-alien riots," and the paragraph in which this information is given is so worded that it seems to imply that such riots would not be altogether unjustifiable, "so severe is the hardship as it affects our own working class." We have no doubt that these words are founded on fact, but they prove an additional reason for strengthening the hands of the police and also for expecting at an early date from the Association some idea of how it is proposed to discriminate between the good and the bad stranger before he establishes himself within our gates.

FRACTURE OF THE MANDIBLE DURING TOOTH EXTRACTION.

A CASE of fracture of the mandible during tooth extraction is recorded by Mr. J. H. Badcock in the recent issue of the Transactions of the Odontological Society. A right third molar which was misplaced had been the seat of recurrent attacks of inflammation. The tooth was almost buried and was lying horizontally with the morsal surface pointing forwards. An attempt was made to remove the tooth but during the efforts to dislodge it the mandible fractured, the line of fracture running horizontally backwards in a straight line from the lower border of the third molar. The fracture was treated and about three months subsequently the tooth was successfully removed. The removal of misplaced unerupted third molars is frequently extremely difficult. Where doubt exists as to the exact situation of the tooth a skiagram should be obtained. The muco-periosteum covering the bone should be reflected and the bone cut away so as to allow the tooth to be easily removed with forceps or elevator. The wound left must be properly treated by plugging. A considerable amount of suffering would be saved if the wounds made by tooth extraction were regarded in the same light as wounds in other parts of the body.

THE TREATMENT OF CHOREA.

IN another column we publish a paper by Dr. R. T. Williamson on the treatment of chorea with aspirin. The drug was given in 35 consecutive cases of the disease and in all favourable results were obtained. The patients were kept away from school but were not confined to bed. The good results obtained, therefore, cannot be attributed to the influence of enforced complete rest. Dr. Williamson states that he writes on the subject with some hesitation, since the disease is one which has usually a tendency to terminate in recovery in the course of time apart from any medical treatment. In severe cases, on the other hand, the disease cannot be immediately arrested by aspirin or by any drug or form of treatment. When steady and progressive improvement follows the administration of drugs usually one or two weeks, often a longer time, must elapse before recovery is complete. Bearing these facts in mind Dr. Williamson is quite correct in maintaining that there is necessity for great caution in drawing conclusions as to the action of any drug. He has, however, performed good service in publishing the results he has already obtained. It is only by prolonged trial and extended experience on the part of many observers that the true value of any therapeutic measure can be ascertained and we, therefore, are glad to publish reports of treatment which hold out hopes of success in order that more extended trial may be made. For this reason in our issue of last week we published a paper on the treatment of sporadic dysentery by Mr. William Fingland. Cases of this nature are occasionally met with in this country which prove very rebellious to treatment. Mr. Fingland draws attention to a preparation obtained from the aplopappus baylahuen, a plant indigenous to South America. The few cases in which he tried the drug proved successful. It is, of course, not wise to express an opinion on the outcome of only three cases, but the symptoms produced by this affection are so distressing and so many procedures, medical and surgical, have been adopted in vain that we think that other practitioners may like to make use of the drug.

ANÆSTHESIA PRODUCED BY HYPNOTISM.

IT is no longer necessary in referring to hypnotism to waste words in discussing whether the condition is real or imaginary. Every careful, conscientious, and scientific observer who has investigated the subject has been convinced of its genuineness. But unfortunately credulity, superstition, chicanery, and fraud have been so closely associated with hypnotic exhibitions that only a comparatively small number of observers have had the patience to ascertain the true value of the hypnotic state. It is now thoroughly accepted that a certain amount of anæsthesia can be produced in persons who have been hypnotised, but inability to recognise painful impressions probably does not occur spontaneously in hypnosis but rather as the result of suggestion. Many operations have actually been performed upon subjects under anæsthesia produced by hypnotism. Dr. Esdaile recorded 261 operations performed by himself in India while his patients were insensible from hypnotic suggestion.[1] A large number of the operations consisted in the removal of tumours varying in weight from 10 to 103 pounds. In another column we publish an account of an amputation of the leg under hypnotism which shows the extent to which the anæsthesia can be carried. Such a degree of hypnosis, however, is difficult to secure and the time occupied in producing it may be long. Moreover—and this is highly important from the practical standpoint—the anæsthesia produced by hypnotism varies greatly in different subjects and is extremely uncertain in its nature and duration. The case we publish, therefore, can only be regarded to some extent as a curiosity, although the issue was highly favourable and seems to support the procedure employed very strongly.

THE only case of plague discovered in Cape Colony during the week ending July 25th occurred at East London. As regards Mauritius, a telegram from the Governor received at the Colonial Office on August 14th states that for the week ending August 13th there were 15 cases of bubonic plague and 12 deaths from the disease.

Professor Rubert Boyce delivered an address in the Examination Schools at Oxford, in connexion with the Oxford University extension meeting, upon Bacteriology in Relation to the Tropics.

[1] Practical Therapeutics. Edited by F. P. Foster, M.D. Vol. i., p.

THE RULES OF THE CENTRAL MIDWIVES BOARD.

THE rules framed by the Central Midwives Board in pursuance of Section 3 of the Midwives Act, 1902 (2 Edw. VII., c. 17) have been approved by the Privy Council. The schedule which follows gives the rules as modified by the Privy Council from the draft and minority report submitted to them some three months ago by the Midwives Board. Section *A*, which merely regulates the proceedings of the Board, has been omitted. The prescribed forms can be obtained at the office of the Central Midwives Board, Suffolk-street, Pall-mall, S.W.

B.—REGULATING THE ISSUE OF CERTIFICATES AND THE CONDITIONS OF ADMISSIONS TO THE ROLL OF MIDWIVES.

1. Candidates must satisfy the Central Midwives Board that they have reached a sufficient standard of general education and submit the following documents, duly filled in and signed: (*a*) a certificate of birth showing that the candidate is not under 21 years of age; (*b*) certificates to the effect that the candidate has undergone the training set forth in *C* 1 (1) (2) and (3); (*c*) a certificate of good moral character in the form prescribed by the Board.

2. Candidates must pass an examination as hereinafter set forth. (See *C* below.)

3. A candidate who has complied with the above requirements and has successfully passed the examination shall receive a certificate in the form set out in the schedule and her name shall be entered by the secretary on the Roll of Midwives.

4. The names of all women admitted to the Roll of Midwives under Section 6 (1) and (2) of the Midwives Act shall be printed in one single list and in alphabetical order.

C.—REGULATING THE COURSE OF TRAINING AND THE CONDUCT OF EXAMINATIONS AND THE REMUNERATION OF THE EXAMINERS.

1. No person shall be admitted to an examination unless she produces certificates that she has undergone the following course of training, viz.:—

(1) She must have, under supervision satisfactory to the Central Midwives Board, attended and watched the progress of not fewer than 20 labours, making abdominal and vaginal examinations during the course of labour and personally delivering the patient.

(2) She must have to the satisfaction of the person certifying nursed 20 lying-in women during the ten days following labour.

The certificates as to (1) and (2) must be in the form prescribed by the Central Midwives Board, and must be filled up and signed either by a registered medical practitioner or by the chief midwife or in the absence of such an officer by the matron of an institution recognised by the Board, or in the case of a Poor-law institution by the matron being a midwife certified under the Midwives Act or a superintendent nurse certified in like manner and appointed under the Nursing in Workhouses Order, 1897, and attached to such an institution, or by a midwife certified under the Midwives Act and approved by the Board for the purpose.

(3) She must have attended a sufficient course of instruction in the subjects named below. (*See* Section 4 *C.*) No period of less than three months shall be deemed sufficient for the purpose. The certificate must be in the form prescribed by the Central Midwives Board and must be filled up and signed by a registered medical practitioner recognised by the Board as a teacher.

2. Candidates who intend to present themselves for examination must send notice to the secretary of the Central Midwives Board at least three weeks before the date fixed for the examination to commence, accompanied by the certificates mentioned in *B* 1 and *C* 1, and by the payment of the fee of one guinea or, in the event of the candidate having presented herself on a former occasion and having failed to pass, the fee of 15*s*.

3. Any candidate who during the examination shows a want of acquaintance with the ordinary subjects of elementary education may be rejected on that ground alone.

4. The examination shall be partly oral and practical and partly written, and shall embrace the following subjects: (*a*) The elementary anatomy of the female pelvis and generative organs. (*b*) Pregnancy and its principal complications, including abortion. (*c*) The symptoms, mechanism, course, and management of natural labour. (*d*) The signs that a labour is abnormal. (*e*) Hæmorrhage: its varieties and the treatment of each. (*f*) Antiseptics in midwifery and the way to prepare and use them. (*g*) The management of the puerperal patient, including the use of the clinical thermometer and of the catheter. (*h*) The management (including the feeding) of infants and the signs of the important diseases which may develop during the first ten days. (*i*) The duties of the midwife as described in the regulations. (*j*) Obstetric emergencies, and how the midwife should deal with them until the arrival of a doctor. This will include some knowledge of the drugs commonly needed in such cases, and of the mode of their administration. (See *E* 16). (*k*) Puerperal fever, its nature, causes, and symptoms. The elements of house sanitation. The disinfection of person, clothing, and appliances.

5. Due notice shall be given of the examinations to be held under the Act.

6. The remuneration of the examiners shall be such as may from time to time be recommended by the Central Midwives Board and approved by the Privy Council.

D.—REGULATING THE ADMISSION TO THE ROLL OF WOMEN ALREADY IN PRACTICE AS MIDWIVES AT THE PASSING OF THE ACT.

1. Applications for admission to the Roll of Midwives under Section 2 of the Midwives Act must be made on the prescribed forms and must be forwarded to the Central Midwives Board, together with such one or more of the following certificates as may be required.

2. In the case of women claiming admission on the ground of having obtained a certificate in midwifery from the Royal College of Physicians of Ireland, the Obstetrical Society of London, the Coombe Lying-in Hospital and Guinness's Dispensary, or the Rotunda Hospital for the Relief of the Poor Lying-in Women of Dublin, (*a*) either the original certificate on which the application is based, or in the event of the original certificate having been lost a voucher from the accredited secretary or other agent of the certifying body to the effect that a certificate was granted to the applicant on such and such a date; and (*b*) a certificate signed by a justice of the peace, minister of religion or registered medical practitioner, or the secretary of an institution (approved by the Central Midwives Board) of which the applicant is a member, or is or was an employee, stating that the applicant is the person to whom the aforementioned certificate in midwifery was granted. The secretary of the Board shall, by comparison of the handwriting, or by such inquiry as he may think necessary, satisfy himself as far as possible of the applicant's identity. The application must be accompanied by the fee of 10*s*.

3. In the case of women claiming admission on the ground of having obtained a certificate in midwifery from any institution or examining body other than those specified in Section 2 of the Midwives Act, the certificate on which the application is based together with satisfactory evidence, in the form prescribed by the Central Midwives Board to the effect that before the certificate was granted the applicant had received a proper course of instruction and training (including personal attendance, under competent supervision, upon at least 20 cases during and after labour) and had passed an examination in midwifery and the duties of a midwife, and that the institution or examining body by which the certificate was granted considers the applicant at the present time to be a proper person to be admitted to the Midwives Roll. The application must be accompanied by a fee of 10*s*. The applicant may be required to furnish other documents or particulars to enable the Board to decide whether the application can be granted.

4. In the case of women claiming admission on the ground of having been in *bonâ fide* practice as midwives for 12 months previous to the 31st July, 1902, a certificate to the effect that the applicant has to the personal knowledge of the person signing been in *bonâ fide* practice as a midwife, for at least 12 months prior to the 31st July, 1902, and that she is trustworthy, sober, and of good moral character. This certificate must be in the form given in the schedule, must be signed by a justice of the peace, minister of religion, registered medical practitioner, or other person acceptable to the Board and must be accompanied by a fee of 10*s*.

5. The certificates to be issued by the Board under this section will be in the prescribed forms.

Note.—No application for admission to the Roll of Midwives under Section 2 of the Midwives Act, 1902, can be received after the 31st day of March, 1905.

E.—REGULATING, SUPERVISING, AND RESTRICTING WITHIN DUE LIMITS THE PRACTICE OF MIDWIVES.

DIRECTIONS TO MIDWIVES.

1. The midwife must be scrupulously clean in every way, because the smallest particle of decomposing matter may set up puerperal fever. She must wear a dress of washable material and over it a clean washable apron.

Note.—It is best to have the sleeves of the dress made so that the midwife can tuck them well up above the elbows.

A midwife who is attending a case in which there are foul-smelling discharges must not go direct to another case without first changing her dress and thoroughly cleansing and disinfecting her hands and forearms and such appliances (2 (*a*) below) as she may have had occasion to use and is obliged to take with her.

Note.—Unless the cleansing process be thoroughly carried out there will be, even after a healthy confinement, remains of blood, lochia, or liquor amnii on the fingers, and especially under the nails, which will there undergo decomposition and so become dangerous to the next patient attended. The midwife must, therefore, keep her nails cut short and preserve the skin of her hands as far as possible from chaps and other injuries.

2. When called to a confinement a midwife must take with her—(*a*) an appliance for giving vaginal injections, an appliance for giving enemata, a catheter, a pair of scissors, a clinical thermometer, and a nail-brush. (*b*) An efficient antiseptic for disinfecting the hands, &c. (*c*) An antiseptic for douching in special cases. (*d*) An antiseptic lubricant for smearing the fingers, catheters, douche nozzles, and enema nozzles before they touch the patient.

3. On each occasion of touching the genital organs or their neighbourhood the midwife must previously disinfect her hands and forearms.

4. All instruments and other appliances brought into contact with the patient's generative organs must be properly disinfected.

5. Whenever a midwife has been in attendance upon a patient suffering from puerperal fever, or from any other illness supposed to be infectious, she must disinfect herself and all her instruments and other appliances, to the satisfaction of the local sanitary authority, and must have her clothing thoroughly disinfected before going to another labour. Unless otherwise directed by the local supervising authority, all washable clothing should be boiled and other clothing should be sent to be stoved (by the local sanitary authority), and then exposed freely to the open air for several days.

DUTIES TO PATIENT.

6. If a midwife has charge of a lying-in case she must not leave the

patient after the commencement of the second stage and she must stay with the woman until the expulsion of the afterbirth, and as long after as may be necessary. In cases where a doctor has been sent for on account of the labour being abnormal or of there being threatened danger she must await his arrival and faithfully carry out his instructions. (See Clauses 12 and 17 below.)

7. Before making the first internal examination and always before passing a catheter the midwife must wash the patient's external parts with soap and water and then swab them with an antiseptic solution. For this purpose, and for washing the external parts immediately after labour and during the lying-in, on no account must ordinary sponges or flannels be used, but material which can be boiled before use and thrown away afterwards, such as linen, cotton-wool, cotton-waste, tow, &c.

8. No more internal examinations should be made than are absolutely necessary.

9. On the birth of a child which is in danger of death the midwife shall inform one of the parents of the child's condition.

10. The midwife must remove soiled linen, blood, feces, urine, and the placenta from the neighbourhood of the patient and from the lying-in room as soon as possible after the labour and in every case before she leaves the patient's house.

11. The midwife shall be responsible for the cleanliness and shall give full directions for securing the comfort and proper dieting of the mother and child during the lying-in period, which shall be held for the purpose of these regulations and in a normal case to mean the time occupied by the labour and a period of ten days thereafter. (See Clause 17 (c).)

12. A "case of normal labour" in these regulations shall mean a labour in which there are none of the conditions specified in Clause 17 below.

DUTIES TO CHILD.

13. In the case of a child being born apparently dead the midwife should carry out the methods of resuscitation which have been taught her.

14. As soon as the child's head is born, and if possible before the eyes are opened, its eyelids should be carefully cleansed with a suitable antiseptic lotion.

GENERAL.

15. No midwife shall undertake the duty of laying out the dead or follow any occupation that is in its nature liable to be a source of infection.

16. A midwife must enter in a book, with other notes of the case, all occasions on which she is under the necessity of administering any drug, whether scheduled as a poison or not, the dose, and the time and cause of its administration.

17. In all cases of abortion, of illness of the patient or child, or of any abnormality occurring during pregnancy, labour, or lying-in, a midwife must decline to attend alone, and must advise that a registered medical practitioner be sent for, as, for example, under the following circumstances:—

(a) In the case of a pregnant woman: (1) When she suspects a deformed pelvis; (2) when there is loss of blood; (3) when the pregnancy presents any other unusual feature (as, for example, excessive sickness, persistent headache, dimness of vision, puffiness of face and hands, difficulty in emptying the bladder, incontinence of urine, large varicose veins, rupture); or when it is complicated by fever or any other serious condition.

(b) In the case of a woman in labour: (1) In all presentations other than the uncomplicated vertex or breech; in all cases of breech presentation in primiparæ, in all cases of foetal convulsions; and also whenever there appears to be insufficient room for the child to pass, or when a tumour is felt in any part of the mother's passages; (2) if the midwife, when the cervix has become dilated, is unable to make out the presentation; (3) if there is loss of blood in excess of what is natural, at whatever time of the labour it may occur; (4) if an hour after birth of the child the placenta has not been expelled and cannot be expressed—i.e., pressed out—even if no bleeding has occurred; (5) in cases of rupture of the perineum or other serious injury of the soft parts.

(c) In the case of lying-in women and in the case of newly born children: Whenever, after delivery, the progress of the woman or child is not satisfactory, but in all events upon the occurrence of the subjoined conditions in—

(I.) *The Mother:* (1) Abdominal swelling and signs of insufficient contraction of the uterus; (2) foul-smelling discharges; (3) secondary post-partum hæmorrhage; (4) rigor; (5) rise of temperature above 100° F. with quickening of the pulse for more than 24 hours; (6) unusual swelling of the breast with local tenderness or pain.

(II.) *The Child:* (1) Injuries received during birth; (2) obvious malformations or deformities, not inconsistent with continued existence; (3) concealed malformations—incapacity to suck or take nourishment; (4) inflammation to even the slightest degree of the eyes, eyelids, and ears; (5) syphilitic appearance of the skin in certain parts; (6) illness or feebleness arising from prematurity; (7) malignant jaundice (icterus neonatorum); (8) inflammation about the umbilicus (septic infection of the cord).

(d) In cases of the death of a woman during pregnancy labour or lying-in. When a registered medical practitioner is sent for a midwife must state in writing the condition of the patient and the reason of the necessity for medical advice in accordance with Clause 19 (b) below).

NOTIFICATION.

18. (1) *Deaths.*—In all cases in which the death of the mother or of the child occurs before the attendance of a registered medical practitioner the midwife shall, as soon as possible after the death, notify the same to the local supervising authority.

(2) *Stillbirths.*—In all cases where a registered medical practitioner is not in attendance the midwife shall, as soon as possible after the occurrence of a stillbirth, notify the same to the local supervising authority. A child is deemed to be stillborn when it has not breathed or shown any sign of life after being completely born.

(3) *Puerperal fever and other infectious diseases.*—These cases are included in the notice required when medical help is sent for. (See 19 (b) below.)

19. A midwife shall keep the following records:—

(a) A register of cases, in the following form:—

No. .....
Date of engagement to attend .....
Name and address .....
.....
No. of previous labours and miscarriages .....
Age .....
Date and hour of Midwife's arrival .....
Presentation .....
Duration of 1st, 2nd, 3rd stage of labour .....
Complications (if any) during or after labour .....
.....
Sex of Infant.....Born living or dead.....
Full time or premature—No. of months.....
If Doctor called.....Name of Doctor.....
Date of Midwife's last visit.....
Condition of Mother then (see Clause 11, above.).....
.....
Condition of Child then.....
Remarks * .....
.....

* If any drugs have been administered state here their nature and dose and the time and purpose of their administration.

(b) A record of sending for medical help, in the following form:

No. ..... Date .....
Name of patient .....
Address .....
requires medical assistance at once on account of .....
.....
Signed ..... (Certified midwife).

Sent to (doctor) .....
at (address) .....
Time of sending message .....

The midwife shall make two copies of the above (b) by means of transfer paper or otherwise; she shall preserve one of these copies for herself and shall send the other by post to the local supervising authority within 12 hours. (See Clause 18 (3), above.)

The midwife is also recommended to keep a case-book with fuller details.

20. The supervising authority shall make arrangements to secure a proper inspection of every midwife's case-book, bag of appliances, &c., and, when thought necessary, an inspection of her place of residence and an investigation of her mode of practice.

21. Nothing in this section (E) shall apply to certified midwives exercising their calling in hospitals, workhouses, or Poor-law infirmaries under the supervision of a duly appointed medical officer.

F.—DECIDING THE CONDITIONS UNDER WHICH MIDWIVES MAY BE SUSPENDED FROM PRACTICE.

In carrying out Section 8 (3) of the Midwives Act it shall be the duty of the local supervising authority to suspend a midwife from practice who contravenes the directions for the use of disinfectants and for the employment of proper safeguards against the spread of infection and any other rules for the purpose laid down by the Central Midwives Board, and in the exercise of that duty the local supervising authority shall, after communicating their decision in writing to the midwife concerned, at once report any suspension (with the grounds thereof) to the Central Midwives Board.

G.—DEFINING THE PARTICULARS REQUIRED TO BE GIVEN IN ANY NOTICE UNDER SECTION 10 OF THE ACT.[1]

The particulars required to be given in any notice under Section 10 of the Midwives Act, 1902, shall be as follows:—

(1) The number and date of the certificate granted by the Central Midwives Board to the person giving the notice.
(2) Her Christian name and surname in full, and if married since the grant of her certificate, the name under which it was granted to her.
(3) Her usual place of residence, and if she carries on her practice elsewhere, the address also where she practises.
(4) If she practises or acts as a midwife outside the area within which she usually resides or carries on her practice, the date and address at which she commenced to practise or pursue her calling without such area.
(5) The notice shall be in the prescribed Form (Schedule, Form XII.).

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[1] This section deals with notification by the midwife of intent to practise in a certain district.—ED. L.

WEST COUNTRY SOLDIERS AND THE WAR.—On Plymouth Hoe, on August 8th, in the presence of a large and representative gathering, Lady Audrey Buller, on behalf of Princess Christian, unveiled the obelisk erected by Mr. A. Mosely in memory of Prince Christian Victor and the west country soldiers who fell in the South African war. General Buller afterwards presented the South African medal to Surgeon A. L. Fleming, who voluntarily served in the Princess Christian Hospital in Natal.

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

County Borough of Newport (Mon.).—The practicability of dispensing with the use of chemical preservatives in the milk-supply of a large town such as Newport (population 68,862) is the subject of yearly illustration in most parts of Europe. Dr. J. Howard-Jones points out that milk if properly cooled after being drawn from the cow can be kept for 48 hours before turning sour, and he adds that none of the samples of milk submitted to the public analyst of Newport during 1902 were found to contain chemicals. We conclude that this remark applies not only to boron preservatives but to others such as formalin. The town council is to be congratulated upon the success of its efforts in this direction and the result is an interesting illustration of what may be done without legal proceedings. The importance of an urban district being able to exercise some control over the sources of the milk-supply of its district is shown by the fact that in the case of Newport 75 per cent. of the milk comes from outside the borough limits.

County-Borough of Burton-upon-Trent.—Measles has been notifiable in Burton since 1893, but it has now been determined, on the advice of Dr. Harold Coates, the medical officer of health, to discontinue the practice. The following statement as to the cost of notifying various diseases from 1894 to October, 1902, is instructive: measles, £1490; scarlet fever, £290; diphtheria, £127; erysipelas, £78; enteric fever, £48; puerperal fever, £4; and small-pox, £1. It will be noted that the cost of measles notification has been very markedly in excess of that of any other notifiable disease. There have been epidemics of measles every second year since 1894, the number of cases for each succeeding year having been as follows: 1963, 96, 2453, 272, 2648, 25, 2690, 138, 1604 (ten months of 1902). These figures apparently show that notification has been without effect and as regards mortality it seems that the rate was greater during the eight notification years than it was during the eight preceding years. Having regard to these facts it has been determined that "the cost of notification is out of all proportion to any benefit received." We are not told what use was made of the information obtained by notification and hence it is difficult to discuss the matter further. Nor is it, of course, possible to compare the fatality-rate of the disease in the notification and pre-notification periods.

Southampton County Borough.—Mr. R. E. Lauder embodies in his annual report an interesting account of the outbreak of enteric fever which occurred in Southampton last year after the mayor's banquet on Nov. 10th, to which subject we recently devoted a leading article.[1] Mr. Lauder takes an eminently sensible view of the oyster and shell-fish problem when he says: "The difficulty of providing a practical sewage disposal scheme which will produce an effluent free from infection is great and any legislation to be effective and not simply hamper the home industries must give power to control the importation of shell-fish which at present is carried on extensively." With respect to the voluntary notification of tuberculosis which is in force in Southampton the medical officer of health does not speak enthusiastically, most patients, he adds, "objecting to their medical advisers notifying the disease." Seemingly, too, Mr. Lauder is not in favour of its compulsory notification, as he thinks that such a measure would militate against the tuberculous person being able to obtain a livelihood. He is also of opinion that if the sanatorium treatment is to be successful the tuberculous patient must follow some other and healthier occupation when he leaves the institution.

Ipswich County Borough.—Mr. G. S. Elliston congratulates Ipswich upon narrowly escaping a widespread epidemic of small-pox as the disease was introduced into the town on three separate occasions and there are in the borough a large number of unvaccinated children. A house-to-house visitation in the neighbourhood of an outbreak led to the discovery in numerous instances of from one to five unvaccinated children. Several cases of enteric fever were caused, it is thought, by eating cockles taken from the vicinity of the sewer outfall and in four instances the attack was by a process of exclusion attributed to the accidental swallowing of river water. We are glad to see that Mr. Elliston is advocating some improved method of treating the Ipswich sewage. The present method, if such it can be called, is almost useless. We are certain that nothing short of sterilisation of the sewage will render it safe to collect cockles to be consumed raw or partly boiled from the vicinity of the sewer outfall, but a suitable bacterial process would probably reduce the evil in a very material degree and render the estuary far less offensive than it apparently is at present. The sanitary authority took the only practical step possible in placarding the district with bills warning the public of the danger they incur by the consumption of cockles obtained near the sewer outfall. If in spite of this warning they still persist in the practice they must be prepared to accept the risk.

Chelsea Metropolitan Borough.—Dr. Louis C. Parkes in his endeavour to control the spread of small-pox in Chelsea received unofficial assistance of a very practical and helpful character. With the view of promoting vaccination in the borough a Chelsea lady put a sum of money at the disposal of the medical officer of health and by means of this timely aid Dr. Parkes succeeded in procuring the vaccination or revaccination of 211 males and 22 female inmates in the common lodging-houses of the borough. The cost per head, including "the initial monetary inducement and compensation for disablement in a certain small proportion of cases," amounted to about 2*s.* 6*d.* Dr. Parkes has within recent years been instrumental in the initiation of some important housing schemes which money borrowed from the London County Council for 60 years at 3½ per cent. interest has enabled the borough council to undertake.

[1] THE LANCET, July 18th, 1903, p. 172.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8966 births and 4544 deaths were registered during the week ending August 15th. The annual rate of mortality in these towns, which had been 13·4, 14·4, and 14·3 per 1000 in the three preceding weeks, rose again to 15·7 per 1000 last week. In London the death-rate was 14·2 per 1000, while it averaged 16·4 in the 75 other large towns. The lowest death-rates in these towns were 6·9 in Reading, 7·1 in Hastings, 7·4 in King's Norton, 8·1 Wallasey, 9·7 in Barrow-in-Furness, 9·8 in Smethwick, and 9·9 in Northampton; the highest rates were 21·4 in Hanley and in Bolton, 21·6 in Salford, 24·6 in Grimsby, 25·9 in Bury, 26·6 in Sheffield, 27·5 in Bootle and 28·9 in Birkenhead. The 4544 deaths in these towns last week included 886 which were referred to the principal infectious diseases, against 532, 591, and 717 in the three preceding weeks; of these 886 deaths 607 were attributed to diarrhœa, 91 to measles, 63 from whooping-cough, 59 to diphtheria, 33 to scarlet fever, 28 to "fever" (principally enteric), and five to small-pox. No death from any of these diseases was recorded last week in Hastings, Bournemouth, Burton-on-Trent, Barrow-in-Furness, Stockton-on-Tees, West Hartlepool, or Tynemouth; while they caused the highest death-rates in Ipswich, Aston Manor, Grimsby, Birkenhead, Bootle, Bury, Salford, Sheffield, and Hull. The greatest proportional mortality from measles, occurred in East Ham, Ipswich, Leicester, Sheffield, and Middlesbrough; from diphtheria in Great Yarmouth and Hanley; from whooping-cough in Oldham, Sheffield, and Newport (Mon.); and from diarrhœa in Grimsby, Birkenhead, Bootle, Bury, Salford, Sheffield, and Hull. The mortality from scarlet fever and from "fever" showed no marked excess in any of the large towns. Of the five fatal cases of small-pox registered in these towns last week two belonged to Liverpool, and one each to Leicester, Oldham, and Newcastle-on-Tyne. The number of small-pox patients under treatment in the Metropolitan Asylums hospitals at the end of last week was 45, against 71, 66, and 48 at the end of the three preceding weeks; nine new cases were admitted during the week, against 12, nine, and four in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which had been 1711, 1726, and 1771 on the three preceding Saturdays, had declined again to 1758 on Saturday last, August 15th; 215 new cases were admitted during last week, against 229, 237, and 216 in

the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 132, 110, and 107 in the three preceding weeks, rose again last week to 120, but were 11 below the number in the corresponding period of last year. The causes of 55, or 1·2 per cent., of the deaths in the 76 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Bristol, Salford, Bradford, Newcastle-on-Tyne, and in 46 other smaller towns; the largest proportions of uncertified deaths were registered in Liverpool, St. Helens, Warrington, Rochdale, Sunderland, and South Shields.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 15·4, 14·7, and 14·6 per 1000 in the three preceding weeks, rose again to 15·4 per 1000 during the week ending August 15th, but was 0·3 per 1000 below the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 12·2 in Edinburgh and 13·4 in Dundee to 17·6 in Paisley and 18·8 in Greenock. The 505 deaths in these towns included 45 which were referred to diarrhœa, 12 to whooping-cough, five to measles, three to scarlet fever, three to "fever," and one to diphtheria, but not one to small-pox. In all, 69 deaths resulted from these principal infectious diseases last week, against 62, 63, and 60 in the three preceding weeks. These 69 deaths were equal to an annual rate of 2·1 per 1000, which was 1·0 per 1000 below the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of diarrhœa, which had been 34, 28, and 34 in the three preceding weeks, further rose last week to 45, of which 24 were registered in Glasgow, five in Dundee, four in Leith, four in Greenock, three in Aberdeen, three in Paisley, and two in Edinburgh. The deaths from whooping-cough, which had been 11, 15, and five in the three preceding weeks, rose again to 12 last week, and included eight in Glasgow and two in Edinburgh. The fatal cases of measles, which had been seven, six, and five in the three preceding weeks, were again five last week and included four in Glasgow. The deaths from scarlet fever, which had been four, three, and six in the three preceding weeks, declined again last week to three, and all occurred in Edinburgh. The deaths referred to diseases of the respiratory organs in these towns, which had been 79, 69, and 54 in the three preceding weeks, further declined last week to 50, and showed a decline of 23 from the number in the corresponding period of last year. The causes of 17, or more than 3 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 17·5, 18·3, and 18·2 per 1000 in the three preceding weeks, further declined to 18·0 per 1000 during the week ending August 15th. During the past four weeks the death-rate has averaged 18·0 per 1000, the rates during the same period being 13·4 in London and 13·6 in Edinburgh. The 131 deaths of persons belonging to Dublin registered during the week under notice were one less than the number in the preceding week and included seven which were referred to the principal infectious diseases, against nine, five, and eight in the three preceding weeks; of these, two resulted from "fever," two from diarrhœa, and one each from measles, from diphtheria, and from whooping-cough, but not one from either small-pox or scarlet fever. These seven deaths were equal to an annual rate of 1·0 per 1000, the death-rates last week from the same diseases being 2·3 in London and 1·3 in Edinburgh. The fatal cases of diarrhœa, which had been four and five in the two preceding weeks, declined again to two last week. Two deaths were referred to "fever" last week, against none in either of the two preceding weeks. The 131 deaths in Dublin last week included 28 of children under one year of age and 35 of persons aged 60 years and upwards; the deaths of infants showed a decline, while those of elderly persons were slightly in excess of the number in the preceding week. One death from violence and four inquest cases were registered and 54, or more than two-fifths, of the deaths occurred in public institutions. The causes of 13, or nearly 10 per cent., of the deaths registered in Dublin last week were not certified.

Correspondence.

"Audi alteram partem."

MEDICAL DOCTRINES OF HEREDITY.

To the Editors of THE LANCET.

SIRS,—Dr. Wiglesworth agrees that every lethal disease, by weeding out the weak against itself, has been a cause of evolution and that herein lies the explanation of the fact that every race is resistant to every disease strictly in proportion to its past experience of that particular disease. Apparently he admits, also, what indeed is a patent fact, that every race which commands a sufficient supply of alcohol is temperate strictly in proportion to its past experience of the poison. But because some victims of alcoholism perish after the child-bearing age he is inclined to attribute the evolution in this case, not to the elimination of the drunkards, but to the elimination of the offspring. According to him, then, it is not the generation which drinks but the generation which, owing to its youth, does not drink that is weeded out by alcohol. It will be seen that he enunciates a new and highly original theory of natural selection. I can only reply that while there is very massive and conclusive evidence that from the age of 25 years forwards alcohol is the cause among actual drunkards of a mortality greater than that caused by any disease, there is not a scintilla of real evidence that parental drinking is a cause of "inherited weakness" among children. I fear I must insist that the evidence set forth by alienists is not, as it stands, worth the paper on which it is written. It is asserted by them that "mental instability" and a tendency to alcoholism are apt to coincide in the same individual. It is also admitted that both "mental instability" and a tendency to alcoholism are transmissible to offspring. Why, then, they should attribute the filial defects to parental drinking and not to the parental defects passes my comprehension, especially in view of the evidence furnished by biologists of the extreme indifference of the germ plasm to external influences. If it be asserted that the offspring of drunkards are often more defective than themselves I can only reply that so are the children of non-drunkards. It is clear that an inquiry conducted on these lines should be stringently limited to the children of drunkards who were otherwise perfectly normal and even then—so complex and difficult is the matter—we should have to eliminate the personal equation of the observer. When I was a student one of my teachers who had a "purity" craze attributed all nervous complaints and a good deal more besides to "sexual excess" or venereal disease. Another—a temperance enthusiast—attributed precisely the same disorders to drink. It went very hard with either if they failed to find evidence of what they expected in the sufferers or their progenitors. At the present day I have the advantage of knowing personally more than one industrious observer who, I am sure, would discover "mental instability" in an archangel if only it were proved that the archangel's parents had "twined the vine-leaves in their hair."

May I beg Dr. Wiglesworth when considering his new theory of natural selection to remember that *all* the members of a race that has had no experience of alcohol are drunken to a furious and uncontrollable degree when given access to strong modern solutions. It cannot be doubted since every race which is now temperate was anciently drunken that this was the primitive condition of mind. The most temperate people on earth—the South Europeans and the West Africans—have had unlimited supplies of alcohol for thousands of years, and as there is no evidence of an effective temperance propaganda among them every member of these races must have been exposed to the influence of alcohol "of such intensity as to preclude the possibility of any stable elements being left." Under the conditions I can understand the operations of the scheme of evolution by natural selection as explained by Darwin, but I cannot understand it as explained by Dr. Wiglesworth. I must beg him besides to remember that West Africans have been exposed also to the influence of another poison, malaria, "of such intensity as to preclude," if his doctrine of germinal injury through parental poisoning be correct, "the possibility of any stable elements being left."

Dr. Wiglesworth declares that "it seems impossible to suppose that the delicate cells of which the germ plasm is

composed should be wholly uninfluenced by being placed in an adverse nutritional environment such as must exist when alcohol or other poisons are circulating in the blood." But really I have not declared the contrary. I know nothing about the point raised and I am inclined to believe that no one else knows more. I have merely insisted that alcohol and other poisons do not appear *so* to affect the germ cells that their very remote descendants (the body cells of the child) are rendered defective. I ask for evidence and after all science is founded solely on evidence. The method of inquiry followed by Dr. Wiglesworth, the arriving at important conclusions in the absence of evidence, or in despite of evidence, has led, I suppose, to more scientific error than all other causes combined.

At the meeting of the British Medical Association held lately at Swansea almost every speaker who commented on my paper on Human Evolution with Especial Reference to Alcohol, declared confidently that injurious influences acting on parents cause offspring to be degenerate. Dr. W. Lloyd Andriezen, for example, had seen "hundreds of cases." Dr. A. T. Schofield was amazed to find that I had not observed what others saw "every day," and scandalised that doctrines so flagitious should be introduced to the public weighted with all the prestige that attaches to a paper read before the Psychological Section of the British Medical Association. He was good enough to intimate that an hour's conversation with himself would convince me of the errors of my ways. But Dr. Schofield's surprise, however great, was not half so great as my own. Imagine the Psychological Section suddenly rediscovering and introducing to an appalled world the scientific common-places of the last 10 or 20 years. I am not unduly exalted or sanguine of the result. I fear the conversation between us is impossible, but let me quote for him an authority whom he will probably respect. Professor Clifford Allbutt stated at Bradford a few weeks back in his address to the Sanitary Institute: "My prejudices are against such inheritance. For example, in my young days the dalesmen of Yorkshire drank prodigiously; drank like the Scandinavian heroes whose descendants they are. By drink they damaged their own lives badly; those stalwarts whom nothing but the scythe of time could mow down lived to great ages in spite of the drink; they were bound for longevity and not rarely they made it; but the majority had poisoned themselves by threescore. Yet I noted in them no deterioration of race; generally their youths maintained the same promise of great stature, of energy, and of courage as their forefathers."

Let me, then, implore these gentlemen, who certainly seem very confident and should therefore be able to justify their assertions, to afford us the opportunity of examining their evidence. Above all, let me implore them to present it in such a form that there can be no suspicion of confusion between *post hoc* and *propter hoc*. By way of incentive let me remind them of the tremendous importance of their labour if successful. It will revolutionise biological science. It will raise them to a pinnacle of fame. Many of the acutest minds in the world for a score of years have sought for and failed to find the evidence they have seen "every day" and "in hundreds of cases." In the, I fear, very probable event of the non-production of this evidence I am compelled, most reluctantly but still most categorically, to charge them with a total and by no means creditable neglect of the vast amount of definite work that has been accomplished by biologists, and with an intolerant disregard of conclusive evidence drawn from their own sciences, even when placed before them in the clearest light. I am perfectly aware of, and greatly regret, the arrogant and even offensive nature of this declaration, but I know no other way of shaking these gentlemen out of an attitude of too complacent confidence. I repeat, either they are in the possession of valuable evidence which will revolutionise the science of the last half century, or they are, scientifically speaking, in a backwater from which it is high time they emerged.

I am, Sirs, yours faithfully,

Southsea, August 9th, 1903. G. ARCHDALL REID.

To the Editors of THE LANCET.

SIRS,—It has long been a matter of comment that so very little of the logical faculty is sufficient for those who conduct the affairs of a nation. It would seem that even less is needed to conduct a discussion upon a scientific subject. I will not now enter upon the merits of the question at issue between Dr. J. Wiglesworth on the one hand and Dr. G. Archdall Reid and Dr. C. R. Niven on the other, but if you will allow me I will show how Dr. Niven's letter in THE LANCET of August 15th (p. 494) appears to a humble student of logic.

> If parental drinking led to increased filial drinking or filial insanity, and as these would increase generation after generation, we would expect that those races which have had the most prolonged acquaintance with alcohol would be the most drunken and would have a bigger death-rate from alcohol than those that have not had this prolonged acquaintance with it. ..... Did parental drinking lead to filial insanity the same result would ensue—that is, extermination of the race.

By a parity of reasoning, if a long neck in a giraffe led to increased length of neck in the offspring every giraffe would now carry his head as high as the cross of St. Paul's. So easy is it to procure a *reductio ad absurdum* by ignoring essential conditions—in this case counteracting circumstances. The *non sequitur* is followed by a *petitio principii*.

> Since the child varies somewhat from the parent the germ cell from which he is derived *must also* [the italics are mine] have varied somewhat from the germ cell from which the parent was derived.

The next is not among the recognised fallacies enumerated in books on logic but it is not of Dr. Niven's invention. It was used in Newton's time to refute the absurd theory of universal gravitation.

> *It is difficult to conceive* that this variation in the offspring will be of the same kind as that in the parent. In other words, *it is difficult to believe* that because the parent developed his calf-muscles the child will have better calf muscles than he otherwise would have had. [The italics are mine.]

"There has not been any evidence advanced worth the time spent in examination." As an argument I admit that this is irrefutable. As a statement of fact it is—well, it leaves something to be desired.

> His statistics are supposed to prove that parental drinking will cause filial intemperance or filial mental instability. The foregoing part of this letter and my last letter prove [*prove?*] that for this contention there is not one iota of justification. Were this so, then we would expect every member of a litter of pups or kittens to resemble exactly one another, for the germs have been subjected to the same conditions of environment.

This appears at first to be a case of *ignoratio elenchi*, but on examination it is found to be a neat example of the *fallacia a dicto secundum quid et dictum simpliciter*, the *secundum quid*, that the environment of germs is not the sole cause of variation of the offspring, being ignored.

"We know, however, that no two members of the same litter correspond in any one character or trait." True, indeed! When did ever two kittens or puppies have the same number of legs or tails!

> Dr. Wiglesworth next refers to the Mohammedan races which show us millions of human beings who are perfectly sober, not by virtue of such an evolution, but in consequence of the operation of religious sanctions. ..... If these races are Mohammedans and abstainers we must take into consideration the price they are paying in knowledge, belief, art, morals, law, customs, &c.

Here is the *ignoratio elenchi* with a vengeance. The bearing of these considerations upon the effect of parental intemperance upon the offspring is, indeed, obvious, but to make our view complete should we not also take into consideration the phases of the moon, the bank-rate, and the birds and the blossoms of spring, tra la!

And now, Sirs, let me leave the question of logical correctness and ask in all sincerity for information at the hands of Dr. Reid and Dr. Niven. We acknowledge freely and unreservedly their wealth of knowledge and their dialectical skill. We admit that in comparison with them we are but worms, but why do they address their opponents in the tone of Almighty God addressing a peculiarly ignorant and recalcitrant black-beetle? After all, if a man does hold that acquired qualities are heritable he is still one of God's creatures.

I am, Sirs, yours faithfully,

Catford, August 15th, 1903. CHAS. MERCIER.

To the Editors of THE LANCET.

SIRS,—It is not always an easy matter in a controversy to place oneself in the mental attitude of one's opponent, but the perverseness with which Dr. C. R. Niven continues to misrepresent my position is remarkable. In his last letter[1] Dr. Niven states that I believe and claim to have proved by my statistics "that parental drinking leads to increased desire for alcohol as well as to increased mental instability in the offspring." It would naturally be supposed from this statement that I had

[1] THE LANCET, August 15th, p. 494.

expressed an opinion to the effect *that parental drinking leads to increased desire for alcohol in the offspring.* Nevertheless for this statement of Dr. Niven there is not the smallest shadow of justification. I not only do not hold that opinion, but I have nowhere given any indication that I do so. There is not a line in either of my two letters[2] referring to any increased desire for alcohol being produced in the offspring by parental drinking. There is no suggestion to that effect. The subject is not even alluded to. What I did say was that, in my opinion, the molecules of the germ cells of the parent were capable of having their development modified by the circulation of alcohol in the blood in such a way as to cause the organism resulting therefrom to develop on abnormal lines in the direction of mental instability. This is a statement of a wholly different character from that which Dr. Niven represents me to have made. It implies a *general* influence on the germ plasm by the action of the poison and not a special or specific one in the sense that the changes produced in the offspring are the same as those produced in the parent, which I have nowhere argued in favour of, and the assumption that I have done so is quite unwarrantable on Dr. Niven's part. The reason why a general agent such as alcohol acting on the germ plasm may be capable of producing mental instability in the offspring is not far to seek. The molecules of the germ cells which determine the development of those portions of the cerebral centres which subserve the mental activities constitute the latest formed portions of the germ plasm; they are of comparatively recent development in the race and are, in consequence, the most unstable portions and are therefore the most liable to give way under adverse conditions. If germ cells are forced to develop in a vitiated nutrient medium, one sufficiently impure to retard their activities without destroying them, it scarcely admits of doubt that the most stable, most deeply organised, and most resistant portions of these germ cells are those which will suffer least, and that the stress will fall mainly upon the least organised, most specialised, and least resistant portions. That the higher cerebral centres then should have their development adversely modified under the conditions postulated is only what we might expect. But I note that Dr. Niven does not deny that changes may be produced in the offspring by the circulation of poisons in the blood of the parent, for he says: "It is not denied that the offspring developed from germ cells may be influenced in this or that possible or probable direction by injurious agents—for example, alcohol—circulating in the parent's blood." And again, "With regard to permanent alterations being produced in germ cells and the resulting offspring from poisons, &c., circulating in the blood, this is probably correct." But this really concedes the main point under discussion, the very thing I have been arguing in favour of. It is the point which Dr. Reid denies in his letter of July 4th, p. 56, which started this discussion, for in that letter Dr. Reid quite clearly gives it as his opinion that offspring are *not* permanently injured by the fact that the germ cells from which they arose having been developed in a medium vitiated by the presence of alcohol, opium, or other poisons. From the ardour with which Dr. Niven espoused Dr. Reid's cause I was led to suppose that he also held that opinion, but I note now that this is not so but that, on the contrary, he differs from Dr. Reid and agrees with me on this important point which is really the root and kernel of the whole discussion.

I am, Sirs, yours faithfully,

Ramsill, August 16th, 1903. J. WIGLESWORTH.

To the Editors of THE LANCET.

SIRS,—In THE LANCET lately there has appeared repeatedly an argument which Dr. G. Archdall Reid sums up as follows: "If parental disease affected the offspring subsequently born then the morbid condition thus reproduced in the offspring would be a congenital one and such congenital morbid conditions would, according to biological law, be transmitted to the descendants of the said offspring. Under such conditions a race afflicted by any disease would undergo rapid degeneration and ultimate extinction. We know that this is not the case."[1] Without further elucidation this is not a very convincing argument because it assumes that no other influence can counteract the ill effects of transmission. In order to maintain his ground Dr. Reid must show that degeneracy due to an acquired morbid condition of the parent would be necessarily more potent than any counteracting influence—e.g., the elimination of the unfit. For example, if 20 per cent. of a community were swept off by an epidemic is it impossible that such a removal of the weak and susceptible would have a more powerful effect on future generations than an injury to some of the offspring of the survivors? It certainly seems unsafe on such flimsy theoretical grounds to reject any positive evidence that may exist—e.g., that idiocy is common in the offspring of alcoholic parents.

I am, Sirs, yours faithfully,

Tollington-park, N., August 17th 1903. C. E. SCUDAMORE.

[1] THE LANCET of July 11th, p. 126, and August 1st, 1903, p. 340.
[2] THE LANCET, August 15th, 1903, p. 469.

THE TREATMENT OF GOITRE BY THE USE OF DISTILLED OR RAIN WATER.

To the Editors of THE LANCET.

SIRS,—Whether this treatment is entirely new or not (it will be seen on reference to my letter in THE LANCET of July 18th, p. 185, that the opinion that it was new was given on much higher and more experienced authority than my own) is of much less importance than the fact, which is not open to question, that it has not heretofore met with any general recognition. Possibly "there is nothing new under the sun" and a reference to it may yet be found in some ancient Chaldaic or Egyptian manuscript. I see in the *British Medical Journal* of August 15th that the microbe of plague was apparently known 14 centuries ago! The treatment is not referred to in any general text-book in common use that I have seen (Roberts's Medicine, sixth edition; Gibson's Medicine, 1901; Whitla's Dictionary of Treatment, 1901; Heath's Dictionary, &c.). Moreover, in patients in my own practice who have gone elsewhere for special advice never has this treatment been suggested to them, but they have come back with varying prescriptions or a cautious recommendation regarding surgical interference.

Perhaps the present correspondence will draw more marked attention to the matter. It seems desirable that in every case this simple method should be given a fair and thorough trial for a few months before recourse to drugs or more radical measures. Even in exophthalmic goitre the treatment should be given a trial. My experience teaches me that there is no very clear line of demarcation between the two classes of cases; all gradations are met with between the extremes and it may well be that the same agent is responsible for both, acting in different circumstances and on different constitutions.

I may say that there is, so far as I know, no iron or sulphide contamination in the water here. So many minerals are now occasionally used in therapeutics that one thinks any connexion of the disease with any one of them would ere now have been noted if it existed. Therefore one has to fall back upon a microbic theory as probable. I have at present another case of long standing goitre with distressing symptoms which came under my care only a month ago. Under the rain-water treatment carefully carried out, the patient is already much relieved and the bronchocele is reduced in size.

I am, Sirs, yours faithfully,

C. A. RAYNE, M.D. Lond., &c.

Lancaster, August 16th, 1903.

HUMAN AND BOVINE TUBERCULOSIS.

To the Editors of THE LANCET.

SIRS,—In the account of my paper introducing the above subject at Swansea in THE LANCET of August 15th, p. 473, there is a slight inaccuracy which I ask to be put right. The account says: "Dr. Nathan Raw stated that he agreed with Koch that human and bovine tuberculosis were distinct diseases, although a similar bacillus was found in each. He believed strongly that bovine tubercle could be transmitted to man, although human tubercle could not be conveyed to cattle."

My opinions, which may have been badly expressed, are—that whilst the experimental evidence is at present in favour of Koch in stating that human and bovine tubercle are separate and distinct diseases my own impression is that they are rather *different varieties of the same species* producing a different train of symptoms in the human body. Human tubercle can undoubtedly be conveyed to cattle but

not to any general extent, and I think I have produced considerable evidence in favour of my thesis that bovine tubercle is frequently conveyed to the human, more especially to children, by means of infected cow's milk.

I am, Sirs, yours faithfully,

Liverpool, August 17th, 1903. NATHAN RAW.

A PROBLEM IN MEDICO-LEGAL PSYCHOLOGY.

To the Editors of THE LANCET.

SIRS,—With reference to the "Problem in Medico-Legal Psychology," stated by Mr. J. S. Mackintosh in THE LANCET of August 15th, p. 451, is it not a fact that there has been within a short period of the case referred to *two* other cases of shooting of clergymen in very similar circumstances? I believe that a search of the file of the daily papers would show this to be the fact, as I was much struck by the sequence at the time, and the first case was that of an acquaintance of my own. The first case was much "billed" by the evening papers, which goes (I take it) to justify further Mr. Mackintosh's surmise.

I am, Sirs, yours faithfully,

August 15th, 1903. F. F. M.

THE SERVICES.

ARMY MEDICAL STAFF.

Surgeon-General W. S. M. Price is placed on retired pay. Dated August 11th, 1903.

ROYAL ARMY MEDICAL CORPS.

Colonel R. Exham, C.M.G., retires on retired pay (dated August 19th, 1903); Major R. J. McCormack retires on retired pay (dated August 19th, 1903); Captain P. J. Nunnerley, from half-pay, is placed on retired pay (dated July 26th, 1903); and Lieutenant-Colonel M. D. O'Connell retires on retired pay (dated August 15th, 1903).

The grant of the temporary rank of Surgeon-Captain in the Army to Surgeon-Captain (temporary Surgeon-Lieutenant in the Army) H. N. A. Taylor, 3rd Volunteer Battalion the Essex Regiment, bears date Dec. 30th, 1902.

ROYAL ARMY MEDICAL COLLEGE.

Captain C. E. P. Fowler, R.A.M.C., to be Assistant Professor, vice Major W. H. Horrocks, R.A.M.C., who has vacated that appointment. Dated July 29th, 1903.

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st Cheshire and Carnarvonshire: Captain J. Oldershaw resigns his commission. Dated August 15th, 1903.

Rifle: 3rd Volunteer Battalion the King's (Liverpool Regiment): Surgeon-Lieutenant H. D'A. Blumberg to be Surgeon-Captain. Dated August 15th, 1903. 3rd Volunteer Battalion the Lincolnshire Regiment: Surgeon-Lieutenant J. M. Duncan to be Surgeon-Captain. Dated July 4th, 1903. 2nd Volunteer Battalion the Worcestershire Regiment: Surgeon-Lieutenant C. A. Corke to be Surgeon-Captain. Dated August 15th, 1903.

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

The Aberdeen Company: Lieutenant J. D. Noble, from the Gordon Volunteer Infantry Brigade Bearer Company, to be Lieutenant. Dated August 15th, 1903.

VOLUNTEER INFANTRY BRIGADE BEARER COMPANY.

Gordon: Lieutenant F. Kelly, from the Royal Army Medical Corps (Volunteers), the Aberdeen Company, to be Lieutenant and to command under paragraph 55A Volunteer Regulations. Dated August 15th, 1903.

THE FRAUENSPITAL AT ZURICH.

(FROM A CORRESPONDENT.)

I HAVE thought that a description of the Frauenspital at Zürich would be interesting to readers of THE LANCET.

This hospital is often termed the Pflegerinnenschule or Training School for Nurses, for at the back of the whole hospital scheme lay the idea that women require training and guidance to nurse successfully even the sick in their own homes. The hospital was added to the nursing department, much as a practising school is added to a normal college, to give the students opportunities of observation and practice. This idea first occurred to Dr. Anna Heer, a medical woman established in Zürich, in 1896, probably not without some experience of the necessity for having medical instructions faithfully and intelligently carried out in her patients' interests. The Swiss Ladies' Society, the Frauenverein, had by this time successfully effected many useful pieces of public work, such as establishing a home for the training of servants, a school of housewifery, *crèches* for children, of which three are in Zürich, the supplying of lady helps, and so forth. Dr. Anna Heer therefore addressed herself to the Frauenverein which discussed the subject at Geneva in 1896 during the exhibition season. A committee of 19 ladies, known as the Krankenpflege (care of the sick) Committee, was formed from all parts of Switzerland, seven residing in or near Zürich. Here, too, Dr. Heer found a most able assistant in Fräulein Ida Schneider who zealously took up the correspondence and heartily coöperated with her. Dr. Marie Heim, also practising in Zürich and now consulting physician in the children's department of the hospital, was another earnest fellow worker who played a most important part in the launching of the scheme.

Before deciding on the plan to be adopted for the new building Dr. Heer and Fräulein Schneider travelled to Vienna, Berlin, Hamburg, Paris, Stettin, and elsewhere for the purpose of examining the special features of the hospitals in these cities. The site was selected in a new and hilly suburb of Zürich, Hottingen. It cost 124,000 francs, although a generous municipality let the committee off a third of the cost as its work was one of mercy. There is no hospital proper like it in Switzerland, Germany, or France, still less in England, sanatoriums and such institutions not being referred to. It is a handsome red brick building standing in its own pleasant grounds, with three wings at the back and very large verandahs at each end projecting to the front. The hospital is four storeys high, each storey being devoted to a special purpose—namely, (*a*) the ground floor for accouchements; (*b*) the first floor for operations and the special diseases of females; (*c*) the second floor for other diseases; and (*d*) the third floor for the nurses. Outside is a small laundry with three women at work. Nothing strikes a visitor to the hospital more than its lightness, brightness, and the excessive "modernity" of all its arrangements. The immense corridor at the back connecting the wings and the main building is a special feature. All the sick-rooms open into this. These are either single rooms, double, or small dormitories holding four or five persons. In every room there are electric light, a fixed basin supplied with hot and cold water, and heating apparatus. All the beds are white enamelled. All that is absolutely necessary for a bedroom is there and it is astonishing how much can be dispensed with, including carpets and hangings. The floors are highly polished. When it is advisable to take a patient into the open air wheels are fixed to the bed which, together with the patient, can be wheeled by a child on to the verandah. In all, the hospital usually accommodates about 140 persons, including 60 sick, 25 infants, 35 nurses, 10 of the medical and house staff, and 10 domestics.

The hospital is a paying hospital. In all the building there is only one free bed and it is a baby's. All other patients must pay. In the private division a patient in a single room pays from 8 to 10 francs daily and in a double room from 6 to 7 francs; in the public division prices range from 2 to 4 francs. The average cost for each patient in the hospital is 4 francs 20 centimes or 5 francs 15 centimes if the interest on the building is reckoned. The Frauenverein is poor, but it led off with the comparatively handsome subscription of 5000 francs. The canton and city of Zürich gave 50,000 francs. 1300 ladies have been persuaded to become members of the Stiftung Schweizerische Pflegerinnenschule, to pay a yearly subscription of at least 3 francs and more generally 5 francs, which yields 11,000 francs per annum. Generally the women are most enthusiastic for the hospital and so far the subscriptions have been regularly paid. The ladies gave besides these annual subscriptions a sum of 150,000 francs. They held a great bazaar in November, 1899, and raised 50,000 francs. Besides, the committee obtained a loan of 300,000 francs from private persons, paying only 3 per cent. interest. One lady advanced 125,000 francs of this sum. The

hospital is now well known in the north of Switzerland and begins to be appreciated in Berne and Geneva. On the occasion of my visit there were two English ladies among the patients who spoke gratefully of the care and skill expended on them. As some of the nurses usually speak English there exists no difficulty on the score of language. The infants' department in the hospital affords experience to the nurses until the children are eight months old, or even more in special cases. The nursery is admirably fitted and for a large part of the day the babies stay out in the garden. I saw an infant born three months before term and three days old lifted out of the incubator to be fed with milk.

The hospital has also a room with four female patients whose chief malady is old age, so that nurses may acquire experience with this class of patient. The nurses are divided into three divisions: (*a*) regular nurses with a three years' course; (*b*) extern nurses taking a six months' course, for which they pay 150 francs entrance fee and two francs daily; and (*c*) weekly nurses for midwifery cases, whose course lasts a year. During the first six months of training the nurses must give their services. In the second half year they receive 10 francs monthly, the second year 300 francs per annum, and the third year 400 francs. Those who have the duty of training juniors are styled *oberschwester*.

From the foregoing description it will be seen that the original idea of the hospital, its financing, administration, and medical work, have all been the result of feminine enterprise. It only remains to be said that seven ladies resident in Zürich form the house committee and hold weekly meetings. In 1902, the first complete year of the hospital's existence, the number of patients admitted was 718.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Hospital Saturday Fund.

AT a meeting held to elect the executive committee for the year Alderman Cook, chairman, announced that the whole of this year's collections had reached £18,278 3*s.* 8*d.* Last year the total amount received was £18,036 18*s.* 8*d.*, so that this year there was already an increase of £241 5*s.* and there were still a good many factories to send in. The committee therefore hoped to receive another £400 before it finally made up its return for the year. He thought they had a good deal to be thankful for because they knew that trade generally had not been as good as in years past. Another good feature about the collection was that they had many new subscribers but there were still a good many manufactories which did not subscribe. After alluding to the various convalescent homes—to which I have previously referred in the columns of THE LANCET—supported by the fund, the chairman said that they had got £18,000 and that must be the minimum. They had asked for £20,000. To continue to give £10,000 to the medical charities of Birmingham and to carry on the work of the homes would take all the £18,000. If they were to pay off the debt on Marle Hall they must have the £20,000, and he hoped that the executive would be able before the year was out to bring forward some popular scheme whereby it might obtain the considerable sum of money that was needed.

Foresters' Convalescent Home.

A new pavilion has been recently opened by Viscountess Cobham at the convalescent home maintained at Clent by the Foresters of the Birmingham and Midland district. It is named "The Thomas Memorial Pavilion" after the late Mr. Jeremiah Thomas, described on a brass tablet affixed to the pavilion as "the pioneer of the convalescent home movement among friendly societies." Mr. Thomas, who was at the time a member of one of the Birmingham courts, suggested the idea of establishing a home at Clent and after pressing the matter for 20 years at last saw the opening of one in a house rented for the purpose, of which he himself was made manager. This home succeeded so well that an independent building was at last erected, to which the present pavilion is an annexe. It is so arranged as to afford shelter on one side or the other from any wind which may blow. During the proceedings which took place at the opening so many additional subscriptions were given in that it was announced that the home would commence its work absolutely free from debt.

Women's Hospital.

At a recent meeting of the management committee it was announced that the £30,000 necessary for starting the new buildings had been obtained. Preparations are now being pushed forward with all possible speed with a view of commencing building operations during the present year. There are still about £10,000 required to complete and fully to equip the institution, as well as about £800 per annum more income for up-keep.

Appointment for a Birmingham Surgeon.

Mr. W. F. Haslam, surgeon to the General Hospital and lecturer on applied anatomy in the University, has been appointed a member of the court of examiners of the Royal College of Surgeons of England.

New Infirmary at Tamworth.

The foundation-stones of a new infirmary in connexion with the Tamworth union workhouse were laid this week. It will comprise three blocks. The centre, which will be three storeys high, will be the administrative block, containing nurses' rooms, kitchens, bath-rooms, surgery, and special ward. The south block will be devoted to female patients and the north to males; each portion will be of two storeys and will contain 24 beds, the total accommodation of the infirmary being 60 beds. The building will cost £8792.

Health of Wolverhampton.

The report by Dr. H. Malet, medical officer of health, for the past year has recently been issued. It shows that the birth-rate, 31·6 per 1000, was the lowest recorded and that the death-rate, 16·2 per 1000, was remarkably low for a town like Wolverhampton. The most satisfactory item was the low return in the deaths of children between the ages of one and five years and of deaths under one year. The former numbered 199 and the latter 420, and the report states that the infant death-rate was the lowest on record. The sanitary condition of the borough has been materially improved in several directions during the past year, much unhealthy property having been closed and some demolished, and new and open streets having been built. Much, however, still remains to be done, and Dr. Malet particularly instances the need for the extension of the water-supply, the provision of a destructor, the extension of the borough hospitals for diphtheria and enteric fever, and the conversion of pail closets to water carriage under the provisional order.

August 18th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Granard Nursing Question.

AT a meeting of the guardians of the Granard union held on August 17th a communication was received from the Local Government Board stating that it had inclosed a letter from Dr. Joseph M. S. Kenny. The letter was as follows:—

Fermount, Granard, August 14th, 1903.

SIR,—Having read the pronouncement of the Chief Secretary for Ireland in the House of Commons I feel it is incumbent on me to explain that in any action I have taken in my endeavour to reform the nursing arrangements in Granard union hospital and infirm wards my only anxiety and purpose has been to ameliorate the condition of the sick and helpless poor.

No one regrets more than I do that if, in the discharge of this duty, unintentional offence has been given to any of those engaged with me in the work of the hospital. It has ever been my aim to work harmoniously with all my fellow officials in the administration of the Poor-law medical service.—Your obedient servant,

JOSEPH M. S. KENNY, Medical Officer.

The Hon. the Vice-President, Local Government Board.

One of the guardians proposed that Dr. Kenny should be again called on to apologise. Another, however, said that Dr. Kenny "could not apologise any better unless he went on his knees to each member." The letter was ultimately marked "Read." If after the Chief Secretary's recent complimentary remarks in the House of Commons and the receipt of the above letter by the Local Government Board the religious sisters do not see their way to resume their duties in the union hospital they should find themselves with but few sympathisers.

Rainfall in July.

During the month of July rain fell in the north of Ireland

to the extent of 4·91 inches in 25 days, which is an inch above the average and has created for the month the record of being the wettest for the year. The total rainfall for the year is 24·64 inches, which is almost a month ahead of the usual amount.

Death of Mr. Ralph Stone, M.R.C.P., L.R.C.S. Irel.

Great regret and sorrow were felt in Omagh on August 10th on the announcement of the death of Mr. Ralph Stone at the residence of his brother-in-law at Trillick. Born near Enniskillen, Mr. Stone early decided to adopt the medical profession and studied at Dr. Steevens' Hospital, Dublin, and at the Royal College of Surgeons in Ireland, of which in 1873 he became a Licentiate. In the following year he became a Licentiate of the Royal College of Physicians of Ireland, of which in 1887 he became a Member. 18 years ago Mr. Stone came to Omagh as assistant to Dr. H. B. Fleming and when that gentleman was appointed medical officer of the workhouse Mr. Stone was unanimously elected his successor as dispensary medical officer of No. 1 Omagh district, a position which he held at the time of his decease. He had been in ailing health for the past two years. During the period of his residence in Omagh Mr. Stone performed his numerous duties alike to the satisfaction of the board of guardians (who showed their practical appreciation of his services by adding seven years to his period of service so as to qualify him for the highest superannuation available) and to the poor, who regarded him more as a friend and benefactor than an official practitioner. Mr. Stone, who leaves a widow and one son to mourn their loss, was buried on August 13th, when an immense concourse of friends and patients were present to pay their last token of affection.

The Public Health Committee of Belfast and Fever Cases.

At the ordinary meeting of the public health committee of Belfast, held on August 13th, a deputation appeared from the Royal Victoria Hospital, Belfast, to urge the committee to make arrangements for the treatment of fever cases during the period that will elapse from now until the opening of the new fever hospital at Purdysburn. In the new Royal Victoria Hospital there is no accommodation for fever cases as it was anticipated that the City Fever Hospital—so long talked of—would ere this date have been ready. The new Royal Victoria Hospital will be open for patients in a month while the fever hospital has only just been begun and will not be completed for at least three years, and the question is, what is to be done in the interval for the patients who formerly were admitted into the fever wards of the old Royal Hospital in Frederick-street? No doubt there is the union infirmary in Lisburn-road, excellently managed in every way, but there is a class of patients who will not go there, such as the children from various public schools, young men and women from shops, and private families whose friends willingly pay to have them treated in an isolation hospital. The authorities of the old Royal Hospital offer the public health committee the use of the old fever wards in the interval until the new fever hospital is ready and the question is to be fully discussed at a meeting of the city authorities on August 20th.

August 18th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Surgical Treatment of Facial Paralysis by Anastomosis of the Facial Nerve with the Spinal Accessory.

AT a recent meeting of the Society of Surgery M. Faure made an interesting communication upon this matter. He mentioned that the first operation of the kind was performed by Ballance in 1895. M. Faure recommended an anastomosis of the cut facial nerve with the trapezial branch of the spinal accessory so as to spare the sterno-mastoid branches. A lateral anastomosis could also be made of the trapezial branch of the spinal accessory nerve with the trunk of the facial after this latter had been refreshed, or the cut facial nerve might be united laterally to the refreshed trunk of the spinal accessory nerve. One or other of these operations had been carried out in 14 cases but two of these were of too recent date for any deductions to be drawn from them. In none of the remaining 12 had there been absolute failure. In all the functions of the facial nerve had been more or less regained by means of the spinal accessory. Electrical reactions were established rapidly but motor power came back but slowly. Muscular tonus was always re-established more or less completely.

Eight Epitheliomata removed from the same Tongue in 21 years.

At the meeting of the Society of Surgery which was held on July 29th M. Reclus showed a man who was operated upon for the first time for an epithelioma of the tongue in 1881 by Professor Richet. In 1882 a recurrence was removed by the same surgeon. In the same year another recurrence together with some glands were removed by M. Humbert. No further growth appeared until 1887 when M. Reclus removed a fresh recurrence. In 1894 another growth was removed and two more in May and November, 1898. A further large recurrence was freely removed in 1900, since when the patient has remained free from recurrence. He has no pain and at no time has had much, neither have the successive operations interfered with his speech or his powers of mastication.

Instructions as to the Disposal of Embryos.

A circular recently issued by the Prefect of the Seine deals with the question which has been a much disputed one for many years and has given rise to various discussions at the Society of Medicine and at the small local medical societies throughout the different arrondissements of Paris. Up to the present time the legal regulations which deal with certificates of abortion and the disposal of embryos have been sadly lacking in precision and clarity. Every family has had the right to make a declaration at the *mairie* of their own arrondissement of the birth of a fœtus and to charge the administration with the funeral arrangements, including those of burial in a cemetery. In practice, however, these formalities are very rarely carried out except in the case of a legitimate birth when the child is nearly at term. When the fœtus does not exceed the age of four and a half months most people prefer to throw it down the privy, for this costs nothing, and the expense of a regular burial carried out by the administration is very considerable. In the case of an illegitimate birth things, as is only natural, go on very much the same way, and in such a case many medical men are asking what should be their legal conduct so as to satisfy both the law, which demands that every birth at which they have assisted should be registered at the *mairie* within 48 hours, and that other regulation which makes them penally responsible unless they preserve professional secrecy when the family in question demand that this secret should be kept. In the absence of definite legal regulations the medical men who have addressed questions on the subject to the various *mairies* have received the most contradictory replies—replies which vary according to the arrondissement to which they are addressed. In order to make the administration take some definite decision there have been medical men who have gone up to the *mairie* themselves, carrying the fœtus in a bottle and making a declaration that they had assisted at the birth of this fœtus but that their oath of professional secrecy forbade them to reveal the name of the mother or her home and therefore it is impossible for the administration to carry out the burial in a regular manner. The medical men therefore asked the mayor to be good enough to preserve the body of the fœtus and to look after its burial and they then add that they consider that now their duties have finished. In many of the *mairies* the mayor promptly shows the medical man the door and has refused to receive a declaration of birth which furnishes no name and has also refused to keep a body for the disposal of which there exists no place in his *mairie*. The prefectural administration was a long time in finding a way out of the difficulty. The most natural solution of the difficulty would seem to be the direct taking of the body by the family to the cemetery or to the crematorium without any names being given, but this solution is obviously impossible, as it would be a means of permitting infanticide or criminal abortion, as there would be no source of information for the law to act upon. Deposition of the fœtus by the medical man or midwife, its origin being kept secret, would afford equal facilities for easily breaking the law. However, some decision had to be taken, for the present state of things cannot last longer without much harm being done. The circular which the Prefect of the Seine has just sent out to all the *mairies* of his department settles the matter by ordering that there should be installed in every *mairie* a special place where fœtuses can be deposited by a medical

man or a midwife and where they shall remain until the administration has made arrangements for the funeral. The medical man and the midwife can keep secret the name of the mother and her address provided they swear upon their oath that the birth of the fœtus in question took place really in their presence and in the arrondissement of the *mairie* at which the declaration is made.

August 18th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

The Bubonic Plague.

THE bubonic plague still exists in Sydney. An increase in the number of infected rats and mice is reported and one case has occurred in a human being. This is the first case since June of last year. The source of infection has not been traced so far. The destruction of rats is vigorously prosecuted. No case of plague having occurred in Brisbane for several weeks and no rats having been found infected since June 8th, that city has been declared to be free from the disease. All the other States of the Commonwealth remain free.

Outbreak of Small-pox in Launceston.

On June 5th a patient in the Launceston Hospital, supposed to be suffering from severe measles, died three days after admission. 14 days later a nurse from Melbourne was placed in the same ward and was attacked with similar symptoms. She died after a few days' illness. Then another nurse, a laundress, and two porters were attacked and it was then recognised that the disease was small-pox. Dr. Barnard, the house surgeon, was next infected, but with a modified form of the disease. Case after case was reported, some from the country, and over 20 have been attacked. All the patients and, so far as possible, all "contacts" have been strictly isolated. Launceston and Hobart have been declared infected ports and strict quarantine has been enforced on all shipping. People are rushing to be vaccinated all over Tasmania. Up to six years ago vaccination was compulsory in Tasmania; then the Act was amended by the introduction of a conscience clause. The result has been that the amount of vaccination has fallen off considerably. Victorian experience shows conclusively the value of compulsory vaccination. Although small-pox has several times been introduced into that State and dealt with by the officers of the board of health and medical men, nurses, and others have been brought into contact with the disease, not one has been infected, as they have all been protected by previous vaccination.

Typhoid Fever at Balmain.

The outbreak of typhoid fever at Balmain, referred to in a previous communication, though diminishing, still continues. The cause of the outbreak is so far undetermined and forms a matter of dispute between the municipal authorities, the board of health, and the board of water-supply and sewerage. A report on the subject has been received from the assistant medical officer (Dr. E. S. Stokes) in which it was stated that 160 cases of typhoid fever had occurred in Balmain from December of last year to June 13th of this year. During his investigations he had seen or heard nothing that would lead him to believe, or even to suspect, that the practitioners who had certified that the cases were typhoid fever had made any errors of diagnosis, as had been suggested by certain aldermen. As to whether the cases had been imported into the suburb from the city or outer districts, there had been no facts discovered to justify the assumption that they had. On the contrary, it appeared evident from a consideration of the facts brought to light during investigation that the infection had been received locally. With regard to a suggestion that the importation of South African blankets, soldiers' kits, &c., had had something to do with the outbreak, he could find no evidence that infected blankets or clothing had actually been brought into the State from South Africa, and, admitting the fact that such might have been introduced in small quantities, there were no facts to support the theory that the source of infection of the cases could be discovered in this direction. Dividing the area served by the sewers into two parts, one to the north and one to the south of Darling-street, in the northern half there are 113 ventilating shafts and 13 cases of typhoid fever, while in the southern half there are 137 ventilating shafts and 91 cases of typhoid ever respectively. Outside this area there are 56 cases, all of which may reasonably be considered to be beyond the influence of the ventilating shafts. Numerically, then, there is no constant relationship between the shafts and the cases of typhoid fever in Balmain. Moreover, as the sewers in Balmain are, in common with those of the other sewered portions of the metropolis, ventilated on the one system and as extended experience has shown that, consequent upon the establishment in various boroughs of proper sewers with the concomitant ventilating shafts and of efficient house connexions, the typhoid fever rate in the district has almost invariably been reduced to a minimum, it must be apparent for the above reasons alone that it would be going out of the way to seek for the cause of the typhoid fever in the sewer ventilations. Samples of the water have been bacteriologically examined and no direct or indirect evidence of the presence of typhoid bacilli has been found. Dr. Stokes concludes:—

> I have pointed out that such factors as water-supply, food-supply, sewer air, &c., can be eliminated from the list of possible causes. There is strong evidence that local conditions and habits have been favourable to the spread of the disease. Undoubtedly the most important of these local conditions is the presence of places where the typhoid bacillus can find protection from its natural destroyer—sunlight, and which, in addition, afford a supply of suitable nutriment for it to draw upon. Badly constructed closets are one cause. ..... Personal habits may allow, and do allow in a good many instances, premises to fall into an insanitary condition, but what I want especially to refer to is not personal, but municipal, habits. The continued existence of typhoid in any district shows that the local authority has failed to comply with the requirements of the Health Act. Another local habit which favours the spread of typhoid is the absence or inadequacy of disinfection. I have, in my previous report, indicated the measures which I consider necessary for preventing the excessive amount of typhoid in Balmain. ..... If they are carried out the improvement of the sanitation of the borough will be a preventive of many other forms of ill-health which owe their origin to dirt.

Prevention of Tuberculosis in Victoria.

The Victorian Association for the Prevention and Cure of Consumption has published a statement of the work which it has done since its initiation. It has addressed municipal authorities all over the State on the subject of prevention and has received encouraging replies from the majority of them, these replies being followed in some instances by the enactment of by-laws. It has distributed a large number of circulars to the general public as well as to hospital authorities containing useful information in popular form. Recognising that the sanatorium accommodation now provided is totally inadequate the association approached the committee of the Victorian Sanatorium for Consumptives with offers of assistance. A joint committee was formed and journeys were undertaken with the object of determining the best possible site for a sanatorium. The result was a strong recommendation by the association to the sanatorium committee of a district conveniently situated with regard to railway facilities and eminently suited for a sanatorium site. It then devolved on the sanatorium committee, which has the money to spend, to take the further steps of securing the necessary land and of erecting suitable buildings. The committee of the Austin Hospital for Incurables was also approached to see if further accommodation could be provided there for advanced cases of tuberculosis. At Bendigo a conference has been held of representatives of various bodies and a subcommittee of the city council at the town hall to discuss means for taking united action with a view to cope with the spread of tuberculosis. It was decided to hold public meetings and to enlist the sympathies of friendly societies in disseminating knowledge of the disease and in educating the public as to its means of prevention.

Decline in the Birth-rate in Australasia.

Mr. T. A. Coghlan, Government Statistician of New South Wales, has published a pamphlet on the Decline in the Birth-rate of New South Wales. He is of opinion that for the last ten years the movement of population has been normal and a decline in natural increase is a fixed condition of Australian social progress. It appears that the fall in the birth-rate in Australia and in New Zealand, taken together, is such that there are annually fewer births by nearly 20,000 than would have occurred if the rates prevailing as late as ten years ago had had been maintained. Mr. Coghlan holds that a striking example of the decline can be drawn from New South Wales. In 1887 there were, he says, in this State 112,247 married women under the age of 45 years, in 1901 there were 149,247, yet the number of

children born was about the same in each year. If, he argues, the influx of population from outside Australia, which is at present very slight, was to cease altogether the birth- and death-rates would probably adjust themselves as follows: birth-rate, 27·0 per 1000 of the population; death-rate 12·2 per 1000 of the population; and the natural increase of 14·8 per 1000 of the population. Ten years ago the natural increase was 20·3 and 30 years ago it was 24 per 1000. The following are given as the legitimate birth-rates per 1000 married women under 45 years of age in each division of Australasia for the year 1901:—

Victoria	228·6	New Zealand	246·1
New South Wales	235·3	Queensland	254·0
South Australia	235·9	Tasmania...	260·0
West Australia	243·9		

In the year 1891 the average for Australasia was about 276 per 1000, while the average of the foregoing rates is 239. Dealing in a special way with New South Wales, Mr. Coghlan says:—"The following figures, which are deduced from the New South Wales experience, may be taken as exemplifying the condition of the States as a whole. They give the number of legitimate births to every 1000 married women under the age of 45 years during a period of 21 years; and from the persistent and regular character of the fall it may be surmised that the minimum has not even yet been reached and a further decline may be looked for:—

1881	336·3	1892	286·4
1882	330·5	1893	281·4
1883	335·6	1894	267·1
1884	346·2	1895	266·3
1885	341·7	1896	240·4
1886	338·9	1897	241·3
1887	333·4	1898	229·6
1888	328·8	1899	226·6
1889	304·2	1900	227·1
1890	304·7	1901	235·3
1891	288·7		

In the course of his essay Mr. Coghlan deals at length with a number of other questions equally related to the phenomena of child-birth. On the subject of sex he observes: "In an average year of every 10,000 children born in New South Wales 5134 will be males and 4866 females; the excess of male births is therefore 268, or 5·51 per cent. In no year has the number of females born exceeded that of the males, although the difference has sometimes been very slight." Dealing with the subject of illegitimacy the author quotes statistics to show that the average rate per 1000 was as follows: 1861, 15·29; 1866, 16·70; 1871, 16·67; 1876, 16·31; 1881, 17·45; 1886, 18·35; 1891, 18·11; 1896, 17·20; and 1901, 16·23. Commenting on these figures he remarks: "These figures make it quite clear that illegitimacy is not increasing in New South Wales and completely remove the false idea obtained by comparing the legitimate with the illegitimate natality."

July 6th.

DEATH FROM EATING YEW-LEAVES.—At the meeting of the Yeovil board of guardians held on August 14th it was reported that a pauper lunatic had died in the Wells Asylum from the effect of eating yew-leaves.

SEWAGE AND OYSTER BEDS.—At the meeting of the Falmouth town council held on August 13th, under the presidency of the mayor (Dr. W. Banks), a communication was read from the Local Government Board with reference to an application by the East Kerrier district council to borrow money for works of sewerage for that village. The Local Government Board thought it essential that the position of the oyster beds in the Penryn estuary should be considered in connexion with any sewage scheme. At present the water in which the oysters were laid was polluted, or liable to be polluted, by sewage from Flushing, Penryn, and Falmouth, and consequently it was essential that these three places should be so drained that no sewage should pass over the oyster beds. The Board suggested that there should be a conference of the three councils concerned to see if some joint scheme could be carried out to remedy the present state of affairs. The Falmouth town council eventually decided to confer with the other authorities.

THE SANDGATE "SANATORIA" FOR THE OPEN-AIR TREATMENT OF CONSUMPTION AND OTHER DISEASES OF THE CHEST.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

FOR a considerable number of years, ten at least, the career and exploits of a Mr. J. J. Jones have received the close attention of the editor of *Truth*. The details which have been published in the fearless and carefully edited columns of our contemporary have been such that if Mr. Jones had disproved them there is no doubt that a jury would have granted him very big damages. No proceedings, however, have been taken against *Truth*, as far as we know, in response to any of the many particulars which have been published and, in these circumstances, Mr. Jones's private character, his financial record and his reputation are things which have to be considered very gravely when he appears before the public as a philanthropist and desires to enlist the medical profession upon his side. In the earlier stages of his career Mr. Jones is stated to have carried on so-called religious work of the usual begging-letter type and in those days his proceedings did not come within the scope of THE LANCET. Now, however, he appears at the head of an extensive trade in the provision of what professes to be the outdoor treatment of consumption. A large number of circulars have been sent out to boards of guardians and to private practitioners offering to take in patients at a very low price and, as far as possible, to treat them according to the methods adopted at Nordrach, Davos-Platz, Leysin, and other places. Consequently the questions as to who Mr. Jones is and how far he is capable of accomplishing such promises become matters of considerable public importance, for already several thousand patients, I am given to understand, have passed through his hands.

According to the statements published from time to time in *Truth* Mr. Jones was of humble origin, working for his living first at Chepstow and then at Bristol. In the latter town he acquired some knowledge of religious and philanthropic work and this seemed to open to him better prospects. He came to London in 1874 and started what was called the "Homerton Mission." There is evidence to show that at first he was very poor, but in 1879 he was able to build an evangelical hall which cost £3500 and to open a coffee palace in High-street, Homerton. Then in 1880 a house was taken at Dover to serve as a convalescent home. While Mr. Jones was receiving from charitable subscribers money for all these enterprises he emerged from poverty, lived comfortably, and kept two servants. He was able to afford the luxury of running as candidate for the London School Board and sat on that body for three years. By 1885 he had purchased house property. From his convalescent home at Dover he may have cast an appreciative eye over Folkestone to Sandgate, for when a landslip occurred at the latter place he was able to profit by the panic this occasioned to acquire a good deal of property at very low prices. It is difficult in all the transactions to ascertain what was done and purchased by or for the charitable mission which Mr. Jones had founded, and of which he was the manager, and what he bought for himself out of his own private means. Nor is it easy to explain how he ever managed to acquire private means to any considerable amount. The explanation which he himself has given is that he married women with money. In 1888 he was condemned in the High Court to pay £200 damages and costs in an action for slander and false imprisonment brought against him by one of his neighbours at Sandgate, while he had to pay as well £150 to a second plaintiff. This did not visibly inconvenience him at the time, though in court he had the greatest difficulty to show how he could have become possessed of private means. The estate of his first wife, all told, seems to have amounted to only £50 and that of his second wife to the fifth share of £3000, and yet a year previously to his second marriage he had bought house property to the value, it is said, of £5000. It may be asked, What

has all this to do with the Sandgate Sanatoriums? Well, Mr. Jones has no medical or scientific claim to manage sanatoriums, so that the public and the medical profession, who are invited to support him, have a right to know his antecedents. If these so-called sanatoriums are to receive alms from the public it is necessary to feel sure of Mr. Jones's commercial rectitude; if they are private speculations it is equally necessary to be certain that the patients are placed where they will obtain what they have paid for. I understand that Mr. Jones denies the receipt of subsidies from the public.

The property acquired at Sandgate was first utilised as convalescent homes when not occupied by Mr. Jones himself, his family, and his friends. The big building known as "Beach Rocks" was inaugurated at Easter, 1883, I believe, by Mr. Jones who entertained therein a party of friends. At the same time appeals such as the following were issued:—

DEAR FRIENDS,—For the sake of Him who loved us, for the sake of the penniless around us, *will you aid us?* The work is a great one, the field is large, the claims are urgent, and we feel deeply our need of the Divine grace and goodness for the work in all its branches. May we ask your earnest cooperation in prayer that the Lord would grant us His guidance and direction and that He would be pleased to use our services for His own glory and the good of precious souls.

There is evidence to show that patients were refused admittance while the Jones family occupied eight beds in this institution. In 1888 he acquired an additional house called "Homestead" and two years later the patients were turned out of it to make room for Mr. Jones who then selected this place as his private residence. The gentleman who had inaugurated this home, protested, pointing out that the 52 convalescent women and children for whom this "magnificent home" had been designed were now turned into lodgings in the town. About ten years ago it became more and more evident that the charities for which Mr. Jones was supposed to be acting as manager had no real and effective councils, that there was no genuine control. The public exposure of these grievances led to the reconstruction of some of the charities. In the course of time the connexion between Mr. Jones and these charities was apparently severed. The two large properties, "Beach Rocks" and "Homestead," were sold, but there remained enough for Mr. Jones to stand before the public as a large property owner in Sandgate. He is now running his various enterprises on a commercial basis, though dealing constantly with a large number of sick or convalescent people, many of them belonging to the poorest classes. The question is whether a man with such a past record is a fit and proper person to be entrusted with the care of hundreds, perhaps of thousands, of sick and suffering people. On this score it must at once be acknowledged that opinions are divided. A well-known medical man at Folkestone thought that Mr. Jones was supplying a want and that on very moderate terms, so that his past might be condoned with advantage. But while undoubtedly it is more easy to criticise Mr. Jones's late career than to find fault with his present course of action, it is impossible not to feel that the superintendent of medical institutions ought to have a clean record. The situation presents a very serious problem.

Leaving the question of Mr. Jones's past aside I will endeavour to summarise the complaints that are now made, and then will describe what I was able to see of the present management and condition of the homes for consumptive patients. Perhaps because the object in view is commercial, it is necessary to cram into the houses the maximum amount of tenants; at any rate, when the summer season came round Mr. Jones combined the care of the sick with catering for "cheap trippers," holiday folk, and others. Of course there was a tendency to make the poorer patients give way to the richer holiday folk. A melancholy story was related to me of the removal of children during the night wrapped up in blankets so as to make room for "trippers" and of how the children cried in the street. Holiday folk are said to have slept in beds recently occupied by consumptive patients and one band of excursionists are alleged to have taken their tea prepared in an outhouse which served the purpose of a mortuary. Then *Truth* tells us that the "meals in a so-called sanatorium were cooked by a lady afflicted with cancer who slept in the kitchen and shared that apartment with a young assistant domestic bearing signs of a consumptive tendency." Many more such grievances, some sentimental and some very real, are related. Insanitary conditions are said to have arisen and there were cases of typhoid fever and diphtheria. The Brompton Hospital for Consumption and the West Ham guardians have ceased to send patients and children to these homes, and it is pointed out, as an ominous sign, that most of the present patients came from considerable distances—Wales, Yorkshire, Durham, in fact, parts of the country where little is known concerning Mr. Jones and his former exploits. It has required many hours to read all the complaints that have been printed against Mr. Jones and his institutions. It was, however, a different matter when it became a question of substantiating on the spot the accusations that I had heard and read. Probably with time and success has come improvement.

A local clergyman had written to show that officers and other persons holding excellent positions had been in the habit of residing at Prospect House but could do so no longer because this private house stands side by side with one of Mr. Jones's largest homes. An excellent connexion had been established during 30 years and was now lost because of the proximity of Mr. Jones's patients. Therefore I determined to stay at Prospect House so as to see for myself what inconveniences existed. Sandgate, many of my readers may know, consists practically of one main street which follows the line of the shore and is part of the road from Folkestone to Hythe. In the more central part of the town the houses for the most part have been built with gardens going right down to the sea. There is no beach. The shore is of shingle, rather steep, and divided off at short distances by breakwaters or groins, so that it is not possible to take a walk along the beach and in front of the town. Two of the homes, Durnford House and Ontario House, are thus situated with no public frontage but the shingle, and when children suffering from ophthalmia and ringworm were located in Ontario House they naturally played on a little bit of shingle that faced their house. Of course, the immediate neighbours disliked such an unpleasant proximity. Then the consumptive patients spit over the garden wall on the shingle below, where the sputum remains, unless there is a very high tide, until it is dry, when it may be blown as dust towards the open windows of the other houses.

At the extreme west of the town the houses are not built right up against the shore and on both sides of the road. There are only houses on the inland side of the road; on the other side there is a sea-wall promenade and then the sea. It is here that Prospect House is situated and is only separated by its wall from Grosvenor House which is the largest home Mr. Jones possesses. According to his own statement it contains 46 beds. This place was used promiscuously as a sort of hotel, as a hospital, and as a convalescent home, according to the exigencies of the moment; but after trying his hand at many things Mr. Jones seems to be specialising more and more exclusively in what he calls the outdoor treatment of consumption. Grosvenor House he has now devoted to the outdoor treatment of those consumptive patients who are intrusted to him by Poor-law guardians. They should not, he suggests, be called paupers and though in the legal sense they undoubtedly are paupers, in the social sense they are of a somewhat better class than what is generally understood by the term "pauper." In many instances it could not be expected that they would do otherwise than apply for State relief when suffering from a wasting and almost hopeless disease. I visited them and to me they seemed a very quiet and somewhat subdued collection of invalids. They were clean and tidy and made the best of their cheap, rough clothing. It is not very cheerful to have 46 sick patients for next door neighbours, and no doubt Prospect House has suffered from this feeling, but I doubt whether 46 patients belonging to some more prosperous class would behave better and create less trouble than these paupers. The cry against them at Sandgate is loud and strong, but as far as it is directed against them as paupers it is uncharitable. It is said that they invade the public seats and expectorate all round, so that visitors and the healthy inhabitants do not dare go near. Certainly there is a glass sheltered public seat and refuge just opposite Grosvenor House which I was able to watch constantly from my window. Some of the paupers did sit there; I never saw any of them spit on the surrounding asphalt, but I did see them get up from their seats and walk to the edge of the sea wall so as to spit on the shingle below. This they should not have done but ought to have used the pocket spittoons that are provided. Every morning a scavenger came and swept round these seats. This again was wrong. Such sweeping is of no use, it merely helps to scatter still further whatever germs there may be. The places frequented by tuberculous patients

should be wiped down or scoured out with a strong liquid disinfectant. The object should be to sterilise the dust and not to scatter it about. However and whatever may be done it is impossible to have a large number of tuberculous patients, wandering listlessly about in a small locality with little or nothing to do unless it be to expectorate occasionally, without some inconvenience, some nuisance, and even danger arising. It would be incorrect, however, to say that no attempt is made to reduce this cause of complaint. The following is printed in large type and posted in all the homes :—

VERY SPECIAL NOTICE.

Patients are earnestly requested not to expectorate about the home, the streets, or beach. *It is a dangerous as well as a filthy* habit. Sputum-mugs, glass spittoons or sanitary handkerchiefs ought to be used to avoid danger, discomfort, and annoyance to other patients and the general public.

There exists in the town of Sandgate and neighbourhood a very strong prejudice and a feeling of danger at our having patients in the homes who act as if they did not think of the safety and comfort of others.

Kindly help in removing this prejudice and oblige J. J. JONES.

The patients, I was assured, were threatened with expulsion if they did not observe the above injunction, while, on the other hand, I was also assured by others that it did not prevent constant expectoration on the thoroughfare. The truth is perhaps to be found between both statements. A check has perhaps been established but it is not always effective. A by-law rendering expectoration in public places illegal followed by a few sharp prosecutions would doubtless produce better results. But in answer to an application in regard to the enactment of such a by-law the Local Government Board wrote to the Sandgate authorities that it was not aware of any provision by which the urban district council was empowered to deal with the nuisance caused by expectorating in the streets. By-laws for good rule and government might be made by the town council of a borough under Section 23 of the Municipal Corporation Act, 1882, and county councils had the same powers under Section 16 of the Local Government Act, 1888. Consequently all the local authorities of Sandgate can do is to invoke the intervention of the county council.

The grievance about expectoration is, however, mere skirmishing round the main issue. The fundamental trouble is that a number of private houses situated in the main street and most crowded portion of the town have been converted into hospitals. These houses were not built for such a purpose. They are residential dwellings for private individuals or holiday guests, and instead of the ordinary visitor they now accommodate a class of patients who are well enough to frequent the streets and beach, while they may be the means of spreading disease. This frightens the ordinary frequenter of the town and consequently trade is deteriorating and the value of house property is falling rapidly. In view of this state of affairs Mr. Jones has a printed notice to the following effect :—

SPECIAL NOTICE.

Patients are respectfully requested NOT to use the Public Shelters and Seats. Shelters are provided on the premises of the Sanatoria and Homes in which Patients are residing. Many of the Visitors and Residents are nervous if they think they are sitting near anyone suffering from any Disease of the Chest. I am sure no Patient in connexion with our Establishments will do anything to cause annoyance or alarm.

This somewhat grandiloquent proclamation brings me face to face with the real grievance,—the homes in question are not sanatoriums and the shelters there provided are in no wise sufficient. My first visit was to Grosvenor House and I was accompanied by Dr. C. E. Perry, the medical officer of health, and Mr. Broadley, the district surveyor. The rooms and dormitories were clean. The closets were in a good condition, the only fault being that one closet had no direct outside ventilation. In regard to space, if viewed as a lodging house it is not overcrowded ; as a hospital I should say distinctly that it is overcrowded ; and here is the whole point. Are these places hospitals or are they private lodging houses? The fact that circulars are issued professing to supply open-air treatment and implying that this treatment is the same as at Nordrach suggests buildings constructed for the purpose in the midst of extensive grounds. Nothing of the sort exists at Sandgate. Private houses quite unsuitable for the purpose are used and these are situated in crowded thoroughfares and have no surrounding grounds whatsoever. There is no outdoor treatment and there can be no outdoor treatment unless it be in the public street and at the public expense. Courtyard treatment and open window treatment are the most that can be offered ; but the courtyard treatment interferes with the open window treatment. At Grosvenor House, to enable the patients to remain in the courtyard when the weather is bad a verandah glass shelter has been built on either side. Consequently the windows behind the verandah can only be opened at the top for a short space and it is in this part of the building that the patients sleep in cubicles which must interfere with the circulation of the air. All this, however, is perfectly legal. It cannot be shown that it causes a nuisance. There are thousands, there are hundreds of thousands, of poor people in this country who are quite as ill as the occupants of Grosvenor House and yet who live and sleep in far more unwholesome and unsuitable places. To them Grosvenor House would seem as a paradise, while to those who know what the proper housing of a large number of tuberculous patients should be it seems very much the reverse.

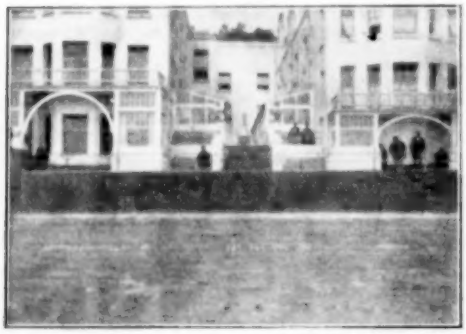
FIG. 1.

Sandgate Homes for the Outdoor Treatment of Consumption. Grosvenor House, showing how the verandah shelter in the yard blocks some of the dormitory windows on either side. Observe the proximity next door of a high-class lodging-house with darker walls and gabled roof.

The situation created by Mr. Jones in thus using transformed private houses as hospitals is, it will be seen, a very curious one, whether it is regarded medically or legally. There is apparently no medical treatment whatever as part of the routine pursued at the homes. A legal question that might be raised is whether the circulars issued do not convey an erroneous impression on the subject. If a nuisance was created or an insanitary area brought into existence then proceedings might be taken ; but the medical officer of health declares that Mr. Jones never refuses to effect any alteration that may improve the sanitary condition of his homes, that the general health of Sandgate is exceptionally good, and that there is no evidence to show that illness has been spread among the general population by the presence of so many patients. A conviction on sanitary grounds cannot be obtained without medical evidence proving the existence of a nuisance. No such evidence is forthcoming. Indeed, it would be difficult to keep such premises in better order in the circumstances or to provide them with a better supply of air. The premises themselves are absolutely unsuitable, for they are not hospitals but badly situated private houses. On the other hand, apart from the open windows, all the walls are pierced and numerous large ventilators are made that cannot be closed, while on the other side of the rooms large holes are drilled through the top of the doors so that even if the windows were closed there would still be a through draught. But when we come to the question of outdoor treatment, where are the patients to go? There is, perhaps, more accommodation at Grosvenor House than elsewhere, so I again choose Grosvenor House for my illustration, yet it only consists of a little terrace in front of the house and a yard. This overlooks the main road where tramcars and motor-cars and carriages of all sorts are constantly passing and stirring up the dust. This is no place for patients to be laid out on beds to sleep or to lie in the direct rays of the sun. Whoever heard of the treatment of consumption on a high road, with the patients just raised a little so that the clouds of dust caused by the carriages may more easily reach

them! Such precisely is the position of the terrace in front of Grosvenor House and the photograph which I took shows the sum total of outdoor accommodation for the 46 patients. If there is no genuine outdoor treatment neither is there any medical treatment. There is no medical officer attached to these establishments. Dr. W. L. Chubb's name has been mentioned in this connexion, but Dr. Chubb

FIG. 2.



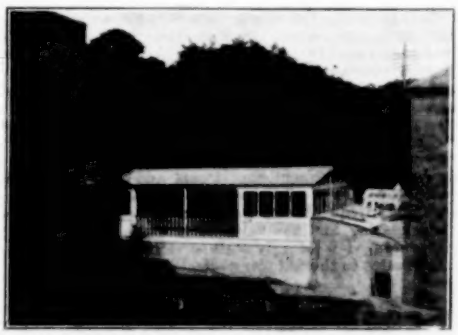
Sandgate Homes for the Outdoor Treatment of Consumption. Grosvenor House, showing all the outdoor accommodation available for 46 patients sent by Poor-law guardians. This home faces the high road and the sea.

explained to me that he had *never* been medically responsible for any of these homes. If one of the occupants was ill he might be called in to give advice, just as he might be called in to give advice to someone taken ill while at the hotel, but a medical man in visiting a patient at an hotel does not hold himself responsible for the sanitary condition of the hotel or for the diet provided. There is no medical control at all. Whatever facilities for treatment are provided are those which Mr. Jones thinks fit to give. He would find it hard, even if he wished to do so, to get a medical officer into his employ. The question is, Ought large establishments for the treatment of serious disease such as pulmonary tuberculosis to be under the absolute control of unqualified persons?

A circular which lies before me, entitled "Particulars of the Homes for the Open-air Treatment of Consumption and Other Diseases of the Chest," emanating from Mr. Jones, has a fly-leaf marked "important" and printed in red upon it, in which the following words, already quoted, occur: "In consequence of our having recently visited 23 sanatoria for consumptive patients on the continent, including those at Nordrach (Germany), Davos Platz, and Leysin (Switzerland), and the improvements now being carried out to make our treatment, &c., as near as possible similar to the methods adopted on the continent we have decided to make our places known as 'Sanatoria' instead of 'Seaside Homes.'" This implies that the same form of treatment is adopted at these homes as at the well-known foreign places of resort. But one of the essential points in the sanatorium treatment properly conducted is constant medical supervision. The patients should be seen by a physician two or three times a day; the whole manner of life is carefully laid down daily by the medical officer, the amount of exercise is carefully regulated, the temperature and pulse-rate are duly noted, and other numerous details are supervised, and these matters can only be carried out by carefully trained medical men. It is quite out of the question that proper "open-air treatment" or "sanatorium treatment" can be supervised by a layman. The same slip says: "The medical officer visits the sanatoria at least once daily," while, in a leaflet inclosed in the circular it is stated, "All reports are drawn up and signed by W. L. Chubb, Esqr., M.D., and are sent monthly by the secretary."

Close to Grosvenor House and likewise overlooking the main road, with the sea wall or promenade and sea on the other side of the road, is a large private dwelling called Farleigh House. This is a square block and contains 34 beds. Here also consumptive patients sent by boards of guardians were located; but towards the end of July quite a transformation scene had taken place. The house was then, and at a cost, I am informed, of some £1500, refurnished and decorated and converted into a home for paying patients. In front of Farleigh House there are only two balconies to accommodate those who wish to sit in the open air, but, on the other hand, there is a little ground behind. Then there is a street on one side of Farleigh House and the house on the other side of this street, Lymington House, stands much farther back from the main street. To the right of Fig. 3 (which is reproduced from a photograph) there is the back of Farleigh House and to the left the front of Lymington House rising above the trees. In the intervening space Mr. Jones has just built a shelter for the patients from which, overlooking in a diagonal line the front garden of Lymington House, there is a view of the main road and the sea beyond. This shelter, which was not quite completed when I took the photograph, is one of the few real attempts to provide what may be considered as outdoor treatment. The centre part, it will be seen, is quite open. When the wind is blowing hard into it only the extreme ends of this shelter could be occupied and there four persons might sit or two persons might sleep. This is very slight accommodation for a house intended to hold 34 patients suffering from tuberculosis, though it is a good and pleasantly situated shelter as far as it goes. Lymington House is to be used only for bedrooms and contains 15 beds which are also to be occupied by paying patients who, however, will board at Farleigh House. In the back court of this house and at a lower level than the shelter a bright and cheerful dining-room has been built. Its roof and outer wall are of glass. At a height of nine feet six inches the outer wall, which consists only of panelling and glass, ceases altogether and there is an open space of about 18 inches before the slanting glass roof is reached. The dining-room is, indeed, more like a hot-house or conservatory and as there is some verdure to be seen

FIG. 3.



The newly constructed shelter behind Farleigh House. To the left, rising above the trees, can be seen another of Mr. Jones's homes, Lymington House.

beyond, this dining-room promises to be a pleasant place. The floors are of concrete, boarded, and pitched. There is electric light throughout.

Grosvenor House with its 46 workhouse infirmary patients and Farleigh House and Lymington House with their 49 paying patients are separated from one another by only five or six private houses, and naturally the inhabitants of these private dwellings are very much inconvenienced by having three hospitals thus wedged in among them. The tenants, the lodgers, and the visitors, who used to frequent this the only part of the town where the houses command an undisturbed view of the sea, are now abandoning the locality. The officers from Shorncliffe camp who also came and lived here have gone further afield. Some of them are now lodging nearer to Hythe in a small locality called Seabrook. Formerly respectable visitors were frightened away by the noisy behaviour of the excursionists and "cheap trippers" whom Mr. Jones used to bring down, particularly as sometimes they considered that they had not been well enough fed and became obstreperous. A small band of excursionists did come down on July 10th of this year, but the business of catering for trippers is dying out

and is replaced by the more serious undertaking of providing so-called outdoor treatment for consumptive patients.

A little further on, in the direction of Folkestone, that part of the town is reached where the houses are built on both sides of the main road, and here is Ontario House where Mr. Jones has 14 beds for paying patients. This house I went over. It was clean and every effort was made to let in as much fresh air as possible. There was a small open space or terrace overlooking the sea but no garden and no place for exercise or for outdoor treatment. It was an ordinary private house jammed in tightly between other houses and therefore absolutely and completely unsuitable for a hospital. Further on is Durnford House with 20 beds which is not used for consumptive patients but for ordinary convalescent patients from infirmaries. The same class of people frequent Sandgate House which is on the other side of the street and therefore does not overlook the sea. There are also 20 beds here. Finally, there is Cambridge House with 17 beds which were occupied by paying patients but which will now, I believe, be used by the infirmary patients removed from Farleigh House. Here there is a short roadway in front of the house separating it from the sea, and it is on this roadway, just behind a little railing dividing what is private property from the public causeway, that the patients sit and recline on couches. Here are sick persons, perhaps desperately sick, lying practically in the public street. They are in full view of the public, and people passing on the causeway have only to reach out their hands to touch the patients. This variation of the open-air treatment may be called "open-street treatment" and if this sort of thing continues there is no reason why tradesmen should not remove their plate-glass windows and let their shop-fronts for the open-air treatment of tuberculosis. "Open-street treatment" is the only possible procedure at Cambridge House, for there is no garden in front nor any open space behind the house, but the method cannot be recommended either for the patients or the public.

It goes without saying that where the open-air treatment is to be attempted the premises should stand in the middle of extensive private grounds and Mr. Jones has two such properties at Sandgate. The one is known as Cheriton Cliff Villas, where there is a large house well away from the main thoroughfare with a certain amount of ground and garden space around. Here he keeps pauper children only. The other and far more suitable place is Manor House, but this is Mr. Jones's own private residence. Thus while the grounds where there is space for the outdoor treatment of consumption are not utilised for any such purpose, Mr. Jones has 126 beds "strictly and exclusively for phthisical patients" in five private houses situated in the most crowded part of the town where there are no grounds, no park, no woods, no variety of shelter, and no balsamic emanations from pine or other suitable trees, in fact, where there exists nothing of what is supposed to constitute the outdoor treatment of consumption. It is an undoubted fact that many of the patients gain flesh, are benefited by their stay, and beg to be allowed to prolong it. Nor are these merely the infirmary patients who naturally prefer the freedom of Mr. Jones's homes to the rigid discipline of a workhouse infirmary, but these remarks apply also to the paying patients. After all, the patients get plenty of food and plenty of fresh air and though the fresh air is not obtained in the grounds and shelters provided by Mr. Jones but in the public thoroughfares that belong to the community and are paid for by the ratepayers, the air is none the less salubrious and beneficial. At Ontario House I found that the patients had seven glasses of milk per day and more if required, and on looking over the books in regard to the milk supply it seemed to be ample. The matrons in charge of the different houses are paid £30 or £40 a year, according to the size of the house. They also receive 2*d*. for every £1 paid by patients for the prolongation of their sojourn. The charges now made are 35*s*. per week inclusive for first-class patients, or 45*s*. if they have a private bedroom. The second-class patients pay 25*s*. or 33*s*. if they have a private bedroom. The patients from the workhouse infirmaries are charged for at the rate of £1 1*s*. a week. All the accounts are kept with great care and system. The matron of each house has to weigh, to examine, and to sign for everything she receives. As it is to her advantage that the patients should be satisfied and tempted to prolong their stay, she is interested in keeping a careful watch that the provisions are fresh, well cooked, and well served. It was on April 26th, 1902, that Mr. Jones commenced to receive paying patients; previously he had only had patients from the workhouse infirmaries. He has now had, I am told, in his various houses more than 2000 private paying patients and thinks that his second year's experience will show double the amount of business done during his first year. He has received a large quantity of letters, some from medical men, expressing satisfaction at the benefit the patients have derived from their stay at his homes.

Mr. Jones is a good manager. He has a model dairy, 36 milch cows, and many pigs, and so can supply his own milk and bacon. He has poultry and eggs sufficient for everyone and, in fact, there remains very little for him to buy. What he does have to purchase he contracts for at wholesale prices and therefore the whole business is conducted on the principle of direct dealing with no intermediaries to subdivide the profits. As a consultant physician at Folkestone remarked to me, Mr. Jones is a very clever administrator. By taking charge of paupers for £1 1*s*. a week he is doing a work that many hospitals would not care to undertake. In this sense a service, it is maintained, is being rendered.

I would, in conclusion, seek to epitomise the situation which Mr. Jones has created at Sandgate. Firstly, even if Mr. Jones manages everything in a most perfect manner there is no reason why he should not do just the reverse. There is no control exercised over him. He may feed his patients as badly as he chooses, he may deliberately set aside any medical instructions given, and, in fact, he is free to do good or otherwise just as his interest or fancy may dictate. No one is responsible but himself, and he is only responsible to himself, so far, at least, as the paying patients are concerned. Even in regard to the infirmary patients the worst that can happen to him is that they should be withdrawn if a surprise visit from the Poor-law guardians led to some unfavourable discovery. Is it right that a private speculator should be able to trade in running this sort of hotel-hospital without there being any qualified technical supervision and control? And here is where Mr. Jones's *dossier* comes in. Much more latitude should be allowed to a man with a clean record in the past than to one who abides under the accusations that Mr. Jones appears unable to refute.

Then, is it right that such a trade should be carried on in the most crowded streets of a town? There are about 2000 inhabitants at Sandgate. What with Mr. Jones's homes and other homes there may be at times from 400 to 500 persons suffering from pulmonary tuberculosis at Sandgate. If in a town one out of every five inhabitants is afflicted with tuberculosis the four healthy persons are placed in in a precarious position. Though the law does not require the isolation of cases of pulmonary tuberculosis, and in fact does not in any way deal with this disease, most persons would approve of regulations that would prevent the wholesale accumulation of such cases in populous centres. Public opinion and medical opinion may not approve of the compulsory notification of pulmonary tuberculosis; but regulations forbidding the creation of hospitals for the outdoor treatment of consumption in the centre of a town seem to follow naturally upon the recognition that tuberculosis is to a certain extent an infectious disease.

THE CHURCH SANITARY ASSOCIATION.—In the course of an address to members of the Church Army in Brunswick Chapel on August 16th the Rev. F. Lawrence, honorary secretary to the Church Sanitary Association, said that preachers in their pulpits and teachers in their schools should by suitable instruction effectually aid those many earnest men and women who were labouring strenuously to improve the health of the people. The custom of appointing a medical officer of health by the year should be abolished and fixity of tenure substituted. The national physique depended largely upon the extent to which the teaching of the Catechism, to keep the body in temperance, soberness, and chastity, was carried into effect.

DISAPPEARANCE OF A MEDICAL PRACTITIONER.—On Friday, August 14th, Miss Sophia Frances Hickman, M.D. Brux., L.R.C.P., L.R.C.S. Edin., went to the Royal Free Hospital as locum-tenent for one of the resident staff who was away for a holiday. On Friday evening she retired presumably to rest. She was seen in the hospital and about the wards up to noon on Saturday, the 15th, but since then nothing has been seen of her nor had anything been heard of her up to Thursday morning. We trust that before the paper is in our readers' hands Miss Hickman's whereabouts and safety will be made known to her father, with whose anxiety in the situation we sympathise deeply.

Obituary.

GEORGE WILLIAM BALFOUR, M.D., LL.D. EDIN. AND ST. AND., F.R.C.P. EDIN., F.R.S. EDIN., M.R.C.V.S.

GEORGE WILLIAM BALFOUR, by whose death in his eighty-first year a notable figure has been removed from the ranks of medicine, was the sixth son of Dr. Lewis Balfour, a well-known Scottish divine and the parish minister of Colinton, the picturesque village in the neighbourhood of Edinburgh to which Dr. George Balfour retired some years ago and where he died. Through his paternal grandmother, Jean Whytt, he was the great-grandson of the distinguished physiologist and professor of medicine in the University of Edinburgh, Robert Whytt of Bennochy, who was likewise the ancestor of the popular novelist, Major White-Melville. Balfour seems originally to have intended practising as a veterinary surgeon, for he qualified at the Royal Veterinary College in 1843. He can scarcely have practised much as such, however, for he appears to have become a Licentiate in Surgery in 1845 and in the same year graduated as Doctor of Medicine at the University of St. Andrews. He then settled in practice at the village of Cramond, near Edinburgh, where he remained for a considerable period, the area of his activity extending well beyond that spot and reaching to Edinburgh, the larger sphere of which was bound sooner or later to exercise its attractive power on one so well calculated to reach and to adorn the foremost rank in his profession. There he finally found himself and there the world ultimately "found" him. In 1861 he became a Fellow of the Royal College of Physicians of Edinburgh, in which body he became an active and influential member and in 1882 one of its most distinguished presidents. He was also for many years the honorary librarian to the College, a post well suited for one of his great literary power and acquirements. He became attached as a physician to the Edinburgh Royal Infirmary when that cradle of so many sound practitioners numbered among its teachers men whose names, still dear to old Edinburgh students, will long outlast their own generation.

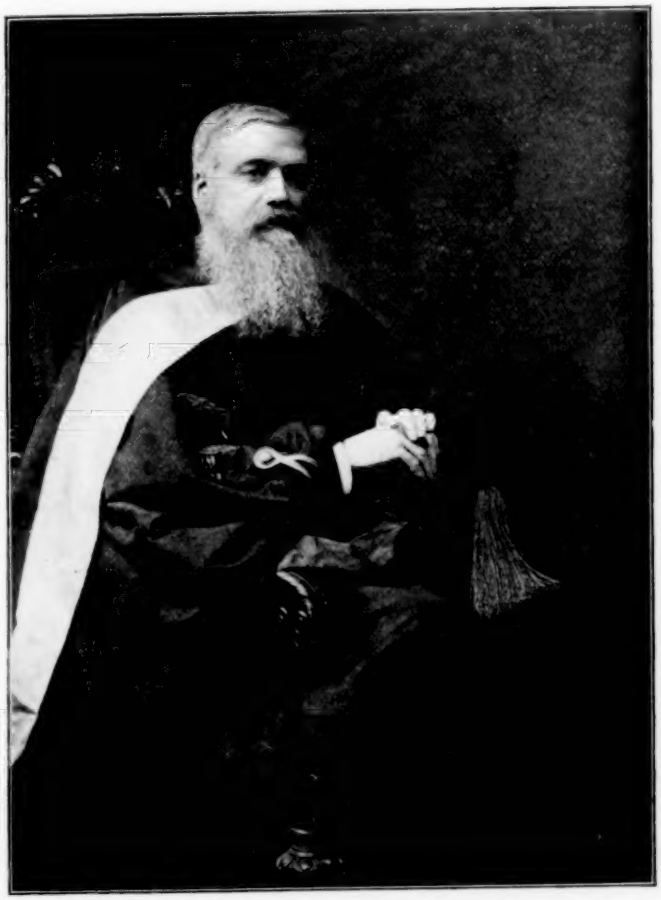
As a teacher Dr. Balfour was much appreciated by his students and his published lectures are a permanent evidence of his power to those who had not the advantage of his personal instruction. Commencing his study of nature, as we have remarked, outside the sphere of human medicine, and practising for long as a general practitioner, Dr. Balfour was a distinguished example of the evolution of a career from the general to the particular in medicine. The length of art and the shortness of life in the modern condition of things impose upon those who would have a deeper knowledge of the science and practice of their art some narrowing or accentuation, in due season, of their field of activity and Dr. Balfour found himself attracted by degrees, and more and more so as time went on, to a study of the disorders of the circulation. Apart from his own predilections and general capabilities for this development, he was well prepared for it by a good knowledge of the literature of European medicine. At a time when the knowledge of German was not so common as at present, he translated for the New Sydenham Society from 1861 to 1865 Casper's classical work on the Practice of Forensic Medicine, in four volumes, and even at a later period some continental authorities have been fortunate enough to find their work presented to English readers by his facile, judicious, and courteous pen. For while Dr. George Balfour was a level-headed man who could usually take a correct measure of men and things with a cool and penetrating scrutiny, and could also at times express his conclusions when unfavourable in language more pointed than agreeable to the criticised, he was withal a "kindly Scot" in more senses than one, a "man of feeling," and even a poet. In the midst of dry and accurate detail, those who are acquainted with his works know, that the crucible and scalpel could be pushed aside by him and a divine music of thought find expression in a living sentence. That this vein of poetry was latent in his blood may be argued from what has already been stated of his ancestry, and also from the fact that his own sister was the mother of Robert Louis Stevenson, whose early death has been so great a loss to English literature.

In 1876, on the death of Dr. Laycock, the professor of medicine in the University of Edinburgh, Dr. Balfour became a candidate for the chair. That he was not elected can in no wise surprise those who are cognisant of the influences sometimes operative in these circumstances, possibly everywhere, but certainly when the elective body is one largely composed of persons whose walk in life precludes their being able to form a sound judgment except at secondhand. That the dignity of the chair and the efficiency of the teaching would not have suffered had Dr. Balfour sat in the place where Cullen and his own ancestor, Whytt, had sat need not be insisted upon. Dr. Balfour's original study of diseases of the heart and blood-vessels is well known and his fame as a consultant in this domain of medicine was not limited to his own country, for his advice in these affections was sought far and wide. Having reached the appropriate period of life the fountains of literary honour in his own country were not slow to recognise his worth. The degree of Doctor of Laws was conferred upon him both by his own University of St. Andrews and by the University of Edinburgh. Nor was he overlooked by the Crown, for he was appointed one of the Physicians-in-Ordinary in Scotland to the late Queen and at the time of his death held the same office under our present King. Dr. Balfour does not appear to have rushed into print prematurely, as is at times the case. The first of his publications of which we have knowledge appears to have been a paper on Hæmatophobia, as he terms it, which is a historical sketch of the fear of blood-letting, with special reference to the treatment of pneumonia. It was published in 1858. From that date, however, until 1898, when the third edition of his Clinical Lectures on Diseases of the Heart and Aorta appeared, his pen was not idle. Of his works, as is natural, those by which he will probably be longest remembered are the lectures just mentioned and his monograph on the Senile Heart, its Symptoms, Sequelæ, and Treatment, which appeared in 1894, when the author in the fulness of his years was able to illustrate his words by a ripe and extensive experience of the condition in all classes of society.

Physically Dr. Balfour was tall, lithe, and of a handsome countenance and preserved even as a septuagenarian the free movement and graceful lineaments of youth. Indeed, until not more than a year before his death some years of hale and active life might have been predicted for him. But a recurrent pleurisy with effusion broke down his natural vigour and he ultimately died from cardiac failure on August 9th somewhat unexpectedly to those not intimately acquainted with his condition. Dr. Balfour was married three times and is survived by his widow and a family some of whom are members of the medical profession. He was buried in the beautiful old churchyard of Ratho, shaded by venerable trees and dotted over with emblems of an eternal hope, and in the burial ground of a well-known surgeon in his day—Mr. Craig of Ratho, whose daughter had been his first wife. The funeral was officially attended by officers and Fellows of his College and when the earth received his mortal remains those present felt that a long and honourable career had closed and one of the few remaining links, if not the last, snapped with what the middle aged man of to-day fondly regards, perhaps with too great partiality, as the halcyon days of the Edinburgh School of Medicine.

WILLIAM SMOULT PLAYFAIR, M.D. EDIN., F.R.C.P. LOND., &c.

IT is with great regret that we have to announce the death of William Smoult Playfair, which took place at St. Andrews on August 13th. William Playfair was born in 1836 and was a son of the late George Playfair, Inspector-General of Hospitals, Bengal, and a younger brother of the late Lord Playfair. He was educated at St. Andrews and Edinburgh University, where he graduated as M.D. in 1856. In 1857 he entered the Bengal Army Medical Service as assistant surgeon and served in Oudh during the Mutiny. From 1859 to 1860 he was professor of surgery at the Calcutta Medical College, but the state of his health eventually compelled him to leave India and in 1863 he established himself in London, having obtained the posts of obstetric physician to King's College Hospital and of professor of obstetric medicine at



GEORGE WILLIAM BALFOUR, M.D., LL.D.

WILLIAM SMOULT PLAYFAIR, M.D., LL.D.

King's College. He held these offices until 1896, being also appointed physician-accoucheur to Her Imperial and Royal Highness the Duchess of Edinburgh. He wrote much upon subjects connected with his own department of medicine and his "Treatise on the Science and Practice of Midwifery" reached its ninth edition in 1898.

Dr. Playfair married a sister of Sir James Kitson and in 1896 he became involved in a *cause célèbre* in which an action for libel was brought against him by the wife of Sir James Kitson's younger brother, whom he attended professionally. In the course of his attendance he discovered certain symptoms which he interpreted in a certain way and he communicated the results of his examination and the conclusions which he drew from them to his wife, who in her turn communicated them to Sir James Kitson. Sir James Kitson's resulting action led to proceedings against Dr. Playfair for libel. The case was tried by Mr. Justice Hawkins and the jury awarded the plaintiff damages to the extent of £12,000. Leave was granted to appeal but the case was eventually settled by agreement between the parties.[1]

On Dr. Playfair's retirement in 1898 (he retired not because he had reached the age limit but, in his own words, because "having completed a quarter of a century's service as professor of obstetrics I think that it is high time to make way for others") from the professorial chair at King's College and from his active work as an obstetrician at King's College Hospital, it was felt by many of his colleagues that the occasion should be used to mark the esteem which they felt for one who for so long had been connected with the two institutions. Accordingly on July 4th of that year a complimentary dinner was held. Nearly 100 friends were present, amongst them being Sir Samuel Wilks, Sir Joseph Fayrer, Sir James Kitson, M.P., Sir William O. Priestley, M.P., Sir Dyce Duckworth, Sir Felix Semon, Sir Walter Foster, M.P., Dr. R. Farquharson, M.P., Bishop Barry, the Rev. Dr. Robertson (the Principal of King's College), the Rev. Dr. Wace, Dr. C. J. Cullingworth, Dr. Constantine Holman, Dr. E. F. Buzzard, Dr. W. J. Maclagan, Dr. Donald W. C. Hood, Dr. Thomas J. Walker (Peterborough), Dr. A. Nicholson (Brighton), Dr. J. Murphy (Sunderland), the staff of King's College and King's College Hospital, and a considerable number of former resident accoucheurs. The chair was occupied by Lord Lister who, in proposing the health of the guest of the evening, referred to his first acquaintance with Dr. Playfair 44 years ago. Dr. Playfair was then dresser to Mr. F. Syme and he (Lord Lister) was Syme's house surgeon. Referring to the trial in which Dr. Playfair had been recently concerned Lord Lister spoke of it as a travesty of justice which did not in the slightest degree diminish the esteem in which Dr. Playfair had previously been held. All those present, whether former students, former colleagues, or others, rejoiced in this opportunity of doing honour to Dr. Playfair and united in a cordial wish that his retirement from hospital and professorial duty might be followed by many years of health, prosperity, and happiness. Dr. Playfair, in answering the toast, said he could not refrain from making some remarks about the trial, and he might mention that Mr. Gladstone, to whom he was practically unknown, had done him the signal honour of writing to him a letter not marked private, so that he was justified in quoting it. In this letter Mr. Gladstone said: "Having most carefully studied all the evidence in this trial I can come to no other conclusion than that you have done neither more nor less than your duty."

Dr. Playfair made a number of communications to the various medical societies and to the pages of the medical journals. Amongst some of the more important of these were papers on the Treatment of Labour complicated by Ovarian Tumour; and Thrombosis and Embolism of the Pulmonary Artery as a Cause of Death in the Puerperal State. In Quain's Dictionary of Medicine he wrote the article on Diseases of the Womb, while to the Dictionary of Psychological Medicine he contributed the section on Systematic Treatment of Functional Neuroses. If in none of his writings he made any very noteworthy advance to our knowledge of the science or art of obstetric medicine he filled a very extremely useful place in medical literature by reason of his great clearness and ease of style. His book on Midwifery, which ran through nine editions, the last appearing in 1898, was for many years the most popular text-book and was widely read by students and practitioners. This book, while neither profound nor scientific in its treatment of the subject, yet was written in so readable a style that its popularity with students was unbounded. It is a great thing to write a book on a difficult subject which a student will face gladly and read often, and Dr. Playfair accomplished the feat. As co-editor with Professor Clifford Allbutt Dr. Playfair brought out the volume on Gynæcology issued in connexion with Allbutt's System of Medicine; and wrote in it the article dealing with the "Treatment of the Functional Neuroses in Women." It is more particularly with regard to this subject that the name of William Playfair will be remembered in this country. He was one of the first, if not the first, to bring to the notice of the profession the measures recommended to be used in the treatment of neurasthenia and known by the name of its originator as the Weir-Mitchell treatment. In the face of a good deal of opposition, and no doubt somewhat to the prejudice of his own reputation as an obstetric physician, Playfair was a staunch upholder of this mode of treatment, which in his hands at any rate gave most brilliant results. Not only by his practice and writings did he do much to teach the profession the correct treatment of this class of case, but he also did much to combat the erroneous impressions that were held as to the necessity for the large amount of local uterine treatment that was so prevalent but a few years ago. It may be that he was unduly optimistic about the "rest cure" and carried it to an extreme, but whether this be so or not there must be many hundreds of women in this country at the present day who have reason to bless the Weir-Mitchell treatment and the name of Playfair as that of the medical man who brought it to their notice. As a teacher Dr. Playfair had a clear and explicit style but was better suited by the lecture theatre than the bedside. His lectures were full of useful hints to the student and were of an eminently practical character. He had a most kind and courteous manner in his dealings with patients, practitioners, and students, and took a very keen interest in the career of those whom he saw to be zealous in their work. His kindness to members of his own profession and to nurses was proverbial. The profession of nursing, indeed, owes much to his exertions on its behalf. He played an important part in elevating the standard of nursing generally in London and more especially that of monthly nurses; and he spared no efforts in getting rid of the specimens of the Sarah Gamp class that were still in existence in his day. He never took any very great part in the administration of the affairs of his hospital or of the medical school except as regards the nursing. His opinions upon many matters were very defined and clear and when occasion arose he had no hesitation in speaking his mind.

His remains were buried on August 15th at St. Andrews in the new cemetery, where also rest the bodies of his two brothers—Lord Playfair and Sir Lambert Playfair. The Burial Office was said at the Episcopal church.

[1] The report of the case appeared in THE LANCET of March 28th (p. 869) and April 4th (p. 961), 1896.

FREDERICK NORTON MANNING, M.D. ST. AND., M.R.C.S. ENG., L.S.A.

OUR Australian correspondent writes:—Australia has sustained a great and inestimable loss by the death of Dr. Frederick Norton Manning which took place on June 18th. Dr. Manning was one of those rare types of character that combine wide and deep knowledge, great administrative and organising capacity, with a kindly courteous personality that won him the affectionate esteem of all with whom he came in contact. He had the gift of imbuing his associates with some of his own enthusiasm and thus achieved great reforms in lunacy administration and the treatment of the insane. Dr. Manning, who was born in Northamptonshire in 1839, was originally a surgeon in the Royal Navy. He served in Australasian waters in the brig *Esk* and, while so employed, he took part in the first attack on the Gate Pah, Tauranga, New Zealand, during the Maori war. On that occasion the British were repulsed with heavy loss, Lieutenant-Colonel Hamilton and nearly all of the officers being killed. Dr. Manning himself had a narrow escape, for a wounded bluejacket was shot in his arms whilst he was carrying him to the shelter of a tree. In 1867, when he was 28 years of age, Dr. Manning was selected to reorganise and to remodel the State institutions for the insane. At the same

time he was appointed medical superintendent of Gladesville Asylum and shortly afterwards he was sent on a mission to inspect similar institutions in England and on the Continent. He also visited America. He was away for about nine months and on his return issued an elaborate report which securely established his reputation as an authority on the treatment of mental affliction. This volume still remains as a standard work on the subject. Dr. Manning visited England again in 1875 and 1887 and on each occasion a valuable report was the result. At the period of Dr. Manning's appointment to the hospital at Gladesville that and the one at Parramatta were the only institutions in the State for the reception and treatment of the insane. Both were antiquated, but under the superintendence of Dr. Manning they were remodelled and, to a large extent, rebuilt. Later Dr. Manning designed the hospitals at Callan Park and Kenmore and these embody the results of his experience and skill. Kenmore, the last to be built, is regarded as an example of all that such an institution should be. He was also responsible for the Reception House at Darlinghurst, which was built in 1868 and which at the time was described as unique both as a monument to the designer's liberality of thought and to his care for the insane. The institution has proved of the utmost value and the model has been adopted in other countries. On the passing of the Lunacy Act of 1878 Dr. Manning, who in the meantime had become inspector of hospitals for the insane, was appointed to the larger position of inspector-general of the insane and he held this office for nearly 19 years. He was also appointed as visitor to court patients under the Lunacy Act—a position corresponding to that of the Lord Chancellor's visitor in England. He was at one time the president of the Board of Health and Medical Adviser to the Government, and later he was an ordinary member of the board. He was a trustee of the National Art Gallery, a director of the Equitable Life Assurance Society of the United States, lecturer in psychological medicine at the University of Sydney, and an honorary member of the Medico-Psychological Association of Great Britain and Ireland. Owing to failing health he resigned the inspector-generalship of the insane in February, 1898, when he was 59 years of age. His health was improved by a holiday trip to England and when he came back he entered into practice as a consultant in mental cases. In this connexion he was looked upon as one of the highest authorities in Australia and he frequently undertook professional visits to other States. He was never married and he leaves no relatives in Australia.

WILLIAM BURNS MACDONALD, M.A., M.B., C.M. EDIN.

BY the sudden and unexpected death on August 2nd of Dr. W. B. Macdonald of Dunbar, at the age of 45 years, a large district has been bereft of one who, by his high character, his honourable conduct, and his unfailing kindliness and courtesy in the discharge of his multifarious duties, had earned for himself, without doubt, the designation of "a man greatly beloved." About a year ago Dr. Macdonald had a fall from his bicycle, which resulted in concussion. He remained unconscious for 48 hours and was incapacitated for two months when, although complaining a good deal of headache and languor, he resumed work. Finding himself unequal to the strain he was, without much difficulty, persuaded to undertake a long sea voyage. Accordingly in November he set out on a yachting cruise round the world and, with the exception of a few days at Fiji, he enjoyed excellent health and appeared to have entirely regained his former vigour. However, on leaving Gibraltar on the homeward voyage cerebral symptoms manifested themselves. He arrived off Cowes in a comatose condition and without regaining consciousness passed away on board the yacht on Sunday morning, August 2nd.

Dr. Macdonald was educated at the Edinburgh Academy and University; he graduated in arts before commencing his medical curriculum, in which his career was brilliant. He was medallist and first prizeman in the practice of medicine and also in practical pathology, besides winning six first-class and six second-class honour certificates. He graduated M.B. and C.M. with honours in 1882 and then undertook the duties of locum-tenens to the Rio Tinto Mines at Huelva, Spain, where, among his other duties, he had charge of a large hospital in which he performed a number of both major and minor operations successfully. On his return to Scotland he acted as assistant for some time to the late Dr. Moffat of Falkirk in a very extensive practice and then for three years was engaged in practice in Lossiemouth. In 1887 he took over the practice of Dr. Napier in Dunbar. He held the appointments of medical officer and medical officer of health to the parish councils of Dunbar and Spott, Innerwick, and Oldhamstocks, army medical officer during the annual training of the militia, Surgeon-Major in the Army Medical Reserve, and Admiralty surgeon and agent. Dr. Macdonald was a widely read and highly cultured scholar. He was a good linguist, was fond of travel, and had seen much of the world. A man of singularly gentle, winning, and kindly disposition, he greatly endeared himself to all with whom he came in contact.

The funeral took place on August 5th at Dunbar, a service being held in the parish church. The military staff, local volunteers, town council, parish council, Oddfellows, and other public bodies were represented. Bells were tolled and all business was suspended. The remains were borne from the church by a military party and laid to rest in the cemetery. Dr. Macdonald, thus removed at the comparatively early age of 45 years, is survived by a widow and three children for whom the greatest sympathy is felt.

JOHN TATHAM, M.D. ST. AND., F.R.C.P. LOND.

THE news of Dr. Tatham's death will be received with great regret by the numerous friends which he made whilst in active work in London, particularly by those who were associated with him at the Hospital for Consumption and Diseases of the Chest, Brompton. Dr. Tatham received his medical education at the Middlesex Hospital and subsequently studied in Paris. He obtained the M.D. of St. Andrews University in 1862 and was elected a Fellow of the Royal College of Physicians of London in 1890. He was at one time physician to the West London Hospital and to the Royal Pimlico Dispensary. He was appointed assistant physician to the Hospital for Consumption and Diseases of the Chest, Brompton, in March, 1868; in 1875 he became physician and on his retirement from these active duties was elected a consulting physician. He took the most keen interest in all that appertained to the work of the hospital and devoted a large portion of his time to assisting in the work of organisation. His kindly manner to the patients was one of his marked characteristics and his geniality and hospitality will long be remembered by his colleagues and the juniors who assisted him in the wards. Dr. Tatham died on August 3rd at Lowfields, Burton-in-Lonsdale, his country residence.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Professor Immanuel Munk of the Berlin Physiological Institute.—Dr. Karl Hoffmann, professor of comparative anatomy and zoology in the University of Leyden.—Dr. Trzebicky, professor of surgery in the University of Cracow.—Dr. G. Marchand, surgeon to the Beaujon Hospital, Paris.—Dr. Konrad Gregor, for many years assistant in the University Clinic for Children's Diseases, Breslau.—Dr. Fischer, an alienist physician of Heidelberg.—Dr. Sigmund Fuchs, a well-known Vienna physiologist.—Dr. van Lith, formerly professor of mental diseases in the University of Utrecht.—Dr. Jean Roger, inspector of maritime sanitation in Egypt.—Dr. Chalot, professor of clinical surgery in Toulouse.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—In August the following candidates passed in the subjects indicated:—

Surgery.—H. H. Clarke (Sections I. and II.), Cambridge, Liverpool, and St. Bartholomew's Hospital; A. N. Collier (Section II.), Manchester; M. B. Dawson (Section II.), Middlesex Hospital; F. Hansen, Copenhagen; J. M. King (Sections I. and II.), University College Hospital; N. O. Roberts (Section I.), Cambridge and St. Mary's Hospital; and A. C. Stark (Sections I. and II.), Westminster Hospital.

Medicine.—A. H. Falkner (Section I.), Cambridge and St. Mary's Hospital; F. Hansen (Section I.), Copenhagen; and A. C. Stark (Sections I. and II.), Westminster Hospital.

Forensic Medicine.—R. H. Cooper, Manchester and Charing Cross Hospital; A. H. Falkner, Cambridge and St. Mary's Hospital; F. Hansen, Copenhagen; S. Northwood, Birmingham; and A. C. Stark, Westminster Hospital.

Midwifery.—H. H. Clarke, Cambridge, Liverpool, and St. Bartholomew's Hospital; R. R. Grellet, Guy's Hospital; F. Hansen, Copenhagen; K. R. Jay, Royal Free Hospital; P. A. Pettavel, Lausanne; and A. C. Stark, Westminster Hospital.

The diploma of the society was granted to the following candidates, entitling them to practise medicine, surgery, and midwifery:—H. H. Clarke, A. N. Collier, J. M. King, and A. C. Stark.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Professor Oskar Israel has been appointed Custos of the Pathological Institute of the Charité in succession to the late Dr. Jürgens.—*Copenhagen:* Dr. Waldemar Bie has been recognised as *privat-docent* of Physiology, Dr. H. P. T. Oerum as *privat-docent* of Physiological Chemistry, and Dr. H. Strandgaard as *privat-docent* of Surgery.—*Erlangen:* Dr. Stöckel has been recognised as *privat-docent* of Gynæcology. Professor Dietrich Gerhardt of Strasburg has been appointed to the chair of the History of Medicine in succession to Dr. Fleischer.—*Göttingen:* Dr. Fleck has been recognised as *privat-docent* of Midwifery and Gynæcology.—*Gratz:* Dr. Emil Knauer of Vienna has been appointed to the chair of Midwifery and Gynæcology.—*Heidelberg:* Dr. Hans Arnsperger has been recognised as *privat-docent* of Internal Medicine.—*Kiel:* Dr. Wandel has been recognised as *privat-docent* of Internal Medicine.—*Lille:* Dr. Carlier has been appointed professor of External Pathology and of Clinical Surgery of the Diseases of the Urinary Passages.—*Lyons:* Dr. Beauvisage has been appointed to the chair of Materia Medica and Botany.—*Montpellier:* Mdlle. Gaussel has been appointed physician in charge of the Gynæcological Clinic.—*Munich:* Dr. von Stubenrauch, *privat-docent* of Surgery, Dr. H. Dürck, *privat-docent* of Pathological Anatomy, and Dr. F. Lange, *privat-docent* of Orthopædic Surgery, have been promoted to Extraordinary Professorships.—*Prague:* Dr. Hugo Huppert being about to retire from the chair of Medical Chemistry, Dr. R. von Zeynek of Vienna has been appointed to the post.—*Rome:* Dr. Vincenzo Giudiceandrea has been recognised as *privat-docent* of Internal Pathology and Dr. Luigi Martino Spolverini as *privat-docent* of Children's Diseases.—*Rostock:* Dr. Johannes Müller has been recognised as *privat-docent* of Physiology.—*Strasburg:* Dr. Rosenfeld has been recognised as *privat-docent* of Psychiatry and Neurology.—*Turin:* Dr. Benedetto Morpurgo of Sienna has been appointed to the chair of General Pathology.—*Vienna:* Dr. Joseph Halban has been recognised as *privat-docent* of Midwifery and Gynæcology and Dr. W. Mitlacher as *privat-docent* of Pharmacology.—*Würzburg:* Dr. Max Borst, *privat-docent* of Pathological Anatomy, has been promoted to an Extraordinary Professorship.

PRESENTATIONS TO MEDICAL PRACTITIONERS.—At the Assembly Rooms, Frome, on August 14th, Dr. C. Rawdon Wood was presented with a framed photograph of the Frome volunteer fire brigade as a mark of appreciation for his honorary services in connexion with the ambulance work of the brigade.—On August 10th Mr. R. R. P. S. Bowker was presented with a gold watch with a suitable inscription on it by a few friends at Abertillery. Mr. Bowker has left this town and intends returning to Australia in a few weeks' time.

Parliamentary Intelligence.

HOUSE OF COMMONS.

THURSDAY, AUGUST 13TH.

Dogs for Experiments.

SIR JOHN ROLLESTON asked the Secretary of State for the Home Department whether he was aware of the source from which the dogs were obtained which were used by vivisectors for experiments and, if not, whether he would cause inquiry to be made as to this.—MR. AKERS-DOUGLAS replied: I have no information as to the sources—no doubt many and various—from which dogs are obtained for the purposes of experiments and I do not think that any good purpose would be served by my attempting to make inquiry on the subject.

Irish Medical Men and Poor-law Appointments.

DR. THOMPSON asked the Chief Secretary to the Lord Lieutenant of Ireland whether he had received any reports showing that the council of the Irish Medical Association had intimidated its members against medical men outside the association seeking Irish Poor-law medical appointments and, if so, whether he would lay them upon the table.—MR. WYNDHAM replied: Reports or regulations purporting to have been issued by the various local branches of the Irish Medical Association contain the following amongst other paragraphs: "That henceforth no medical man shall apply for, or accept any, dispensary appointment at a smaller remuneration than £200 per annum, or workhouse appointment under £120 per annum, unless both be held conjointly, when the minimum salary shall be £300 per annum. That in the event of any position being taken in violation and contrary to the foregoing regulations no member of our association shall recognise, do duty for, or meet in consultation, the offender. Such an offence on the part of a member of our association shall entail instant and ignominious expulsion." It is not proposed to lay these reports, which have been circulated throughout Ireland, upon the table of the House.

DR. THOMPSON asked the Chief Secretary to the Lord Lieutenant of Ireland whether, in view of his public statement that the officers of the Irish Poor-law service had grievances which required to be remedied, he would consider his decision and either appoint a Royal Commission to consider them or else enlarge the scope of the Viceregal Commission now sitting so as to allow these matters to be investigated and reported upon.—MR. WYNDHAM replied: I have nothing to add to the statements already made by me on these matters. The complaints of the medical officers cannot be advantageously considered until after the Government has had an opportunity of considering the report of the Viceregal Commission.

Medical Attendants of the Royal Irish Constabulary.

DR. THOMPSON asked the Chief Secretary to the Lord Lieutenant of Ireland whether, in view of the fact that Irish Poor-law medical officers had power to call in consultation, in the case of severe illness of a poor person, any physician or surgeon they might desire, he would explain why the same discretion was not permitted to medical attendants of the Royal Irish Constabulary.—MR. WYNDHAM replied: No proper analogy can be drawn between the two services. In the case of medical attendants on the constabulary the cost, estimated at about £15,000 in the current year's estimates, is defrayed by the State. It is also to be borne in mind that in Great Britain, in the large majority of local county forces, the police have to provide their own medical attendance and in no case where such is supplied does it include attendance for the man's wife or family as in Ireland.

Infirmary Accommodation at Bristol.

MR. HERBERT SAMUEL asked the President of the Local Government Board whether his attention had been called to the infirmary accommodation in the Bristol union, resulting in the occasional crowding of over 750 sick people in wards in two workhouses certified for 450 and the exclusion of cases of a mild lunacy type which had consequently been treated at a greater cost in the Bristol lunatic asylum; and whether, seeing that the old infirmary wards were condemned by the inspectors in 1898 and that plans for a new infirmary had been prepared, he would state what steps he proposed to take in the matter.—MR. LOCK replied: My attention has been called to the need for further accommodation for the indoor poor of the Bristol union and I have for some time past been in communication with the guardians on the subject. I have pressed them to submit to me a complete scheme for the provision of the necessary accommodation and I am now expecting to hear from them on the subject.

The Indian Medical Service.

SIR MICHAEL FOSTER, speaking in the debate on the Indian Budget, said that within the last two or three years there had been a marked and even an alarming increase in the number of cases of plague in India and in the severity of the disease. Certain persons attributed the result to the "misdirected" recommendations of the Plague Commission, but however that might be he desired to urge on the Government that this increase was a matter of profound importance to India and a danger to the whole world. He urged the noble lord, the Secretary of State for India, most seriously to consider what measures could be taken to lessen this grave increase. India was essentially a pathological country, cholera had its home there, small-pox was supposed to have begun there, and the problems of disease required investigation to an even greater extent than in the mother country. It was, then, of the greatest importance to the whole population of India that the Indian Medical Service should be of the very highest character and that the very brightest intellects should be attracted to that wonderful field of medical inquiry. But there was considerable dissatisfaction in the Medical Service, both military and civil. When he spoke to his young friends of a great future for India they replied in their familiar language, "Not good enough." He believed that the Secretary for India had received a report, sanctioned by no less a body than the British Medical Association, detailing certain wants in the Indian Medical Service, military and civil. He would only refer to three. First, there had been no increase in the pay of the service, although there had been in the Royal Army Medical Corps, in view of increased cost of medical education and other considerations. Expenditure in this direction would be money well invested. Then members of the civil medical service were allowed to engage in private practice which was a very good thing for the service as well as for them, as a good deal of the service work was of a routine character. During the last ten years or so, however, certain regulations had been in force which were galling to the medical profession. When a member of the civil medical service attended a native nobleman or gentleman not only was there a tariff of fees but in each case the charge had to be laid before a lay officer very often of inferior rank. That was regarded by the profession as a stigma. Again, the Medical Department was not represented on the Viceroy's council. If these defects were remedied it would remove a notable bar to the recruiting of bright intellects for the service.

FRIDAY, AUGUST 14TH.

Poisoning in a Prison.

DR. MACDONNELL asked the Chief Secretary to the Lord Lieutenant of Ireland whether his attention had been called to the case of poisoning in Maryborough prison and to the fact that the medicines required for the use of the inmates were under the charge of, and dispensed by, a person without medical qualification and, if so, whether he would consider the advisability of appointing a duly qualified pharmaceutical chemist to this prison.—MR. WYNDHAM replied: The hon. Member doubtless refers to the occurrence of January last in Maryborough prison. On that occasion a number of persons were taken ill from the effects of hellebore powder inadvertently placed in their food. The

powder, which is not a scheduled poison, was not kept in the prison as a medicine, but in the general stores as an insecticide for use on the prison farm. No permanently injurious results followed. All medicines for the use of the inmates of the prison are under the charge of the medical officer who dispenses them. It is not considered necessary to give him the assistance of a pharmaceutical chemist.

Nurses for Workhouse Infirmaries.

MR. TALBOT asked the President of the Local Government Board whether he could give an assurance that no action would be taken with regard to the recognition of qualified nurses for workhouse infirmaries until full opportunity had been given for considering the objections taken to such appointments.—MR. LONG replied: I can assure my right hon. friend that no action will be taken without due consideration of all representations made to me in connexion with the report of the Departmental Committee.

BOOKS, ETC., RECEIVED.

ADLARD AND SON, 20, Hanover-square, W., and Bartholomew-close, E.C.

King's College Hospital Reports. Volume VIII. (Jan. 1st to Dec. 31st, 1901). Price 7*s.* 6*d.*

ADMINISTRACIÓN EN CASA DEL AUTOR, Atocha, 78, 1°, Madrid.

Tratamiento Curativo de la Tuberculosis Pulmonar. (Cuatro Años de Experimentación Clínica.) Por el Dr. Abdón Sánchez Herrero, Catedrático Numerario de Clínica Médica de la Facultad de Medicina de Madrid. Price not stated.

AMERICAN CLIMATOLOGICAL ASSOCIATION (Secretary, Guy Hinsdale, M.D., 3943, Chestnut-street, Philadelphia).

Transactions of the American Climatological Association. For the year 1902. Volume XVIII. Price not stated.

BAILLIÈRE, TINDALL, AND COX, 8, Henrietta-street, Covent-garden, W.C.

Aids to the Feeding and Hygiene of Infants and Children. By John McCaw, M.D., L.R.C.P., Senior Physician to the Belfast Hospital for Sick Children, Queen-street. Price 2*s.* 6*d.*

CHURCHILL, J. & A., 7, Great Marlborough-street, W.

Lessons in Disinfection and Sterilisation. By F. W. Andrewes, M.A., M.D. Oxon., F.R.C.P. Lond., D.P.H. Cantab., Lecturer on Pathology, Pathologist and Sanitary Officer to St. Bartholomew's Hospital, London. Price 3*s.* net.

Serum Therapy, Bacterial Therapeutics and Vaccines. By R. T. Hewlett, M.D., M.R.C.P., D.P.H. Lond., Professor of General Pathology and Bacteriology, King's College, London. Price 5*s.* net.

FISCHER, GUSTAV, Jena.

Grundriss der Lungenchirurgie. Von C. Garrè, Professor der Chirurgie an der Universität Königsberg, und H. Quincke, Professor der inneren Medizin an der Universität Kiel. Price M. 3.

GULLICK, WILLIAM APPLEGATE, Government Printer, Sydney.

The Decline in the Birth-rate of New South Wales and other Phenomena of Child-birth. An Essay in Statistics. By T. A. Coghlan, Honorary Fellow of the Royal Statistical Society, Government Statistician of New South Wales. Price not stated.

HELSINGFORS CENTRALTRYCKERI, Helsingfors.

Finska Läkaresällskapets Handlingar. Redigerade af Professor Robert Tigerstedt. Band XLIV. Tilläggshäfte, 1902. Band XLV., Juni, 1903.

HIRZEL, S., *Leipzig.*

Handatlas der Anatomie des Menschen. Mit Unterstützung von Wilhelm His, Professor der Anatomie an der Universität Leipzig. Bearbeitet von Werner Spalteholz, A. O. Professor an der Universität Leipzig und Custos der anatomischen Sammlungen. Dritter Band. (Eingeweide, Gehirn, Nerven, Sinnesorgane.) Price M. 13.

J. B. LIPPINCOTT COMPANY, 5, Henrietta-street, Covent-garden, W.C.

International Clinics. Edited by A. O. J. Kelly, A.M., M.D. Philadelphia, U.S.A. Volume II. Thirteenth Series. 1903. Price not stated.

KARGER, S., Karlstrasse, 15, Berlin.

Tabes und Psychose. Von Dr. E. Cassirer, I. Assistent an der Nervenpoliklinik von Professor Oppenheim und Privat-dozent an der Universität Berlin. Price M. 4.

Jahrbuch für Kinderheilkunde und Physische Erziehung. Unter Redaction von O. Heubner, A. Steffen, Th. Escherich. 58., der dritten Folge, Band 8. Heft 2; und Ergänzungsheft. Ausgegeben am 1. August, 1903. Der Preis des Jahrganges (zwei Bände) beträgt M. 36.

KEGAN PAUL, TRENCH, TRÜBNER, AND CO., LTD., Dryden House, 43, Gerrard-street, W.

The Exact Science of Health based upon Life's Great Law. By Robert Walter, M.D. Vol. I.—Principles. Price 10*s.* 6*d.*

LONGMANS, GREEN AND CO., 39, Paternoster-row, E.C.

Doubts about Darwinism. By a Semi-Darwinian. Price 3*s.* 6*d.*

NEW SYDENHAM SOCIETY (Agent: H. K. Lewis, 136, Gower-street, W.C.).

An Atlas of Illustrations of Clinical Medicine, Surgery, and Pathology, compiled for The New Sydenham Society (A Continuation of the "Atlas of Pathology"). Fasciculus XVII. (Double Fasciculus.) Being VI. and VII. of New Series. Xanthelasma and Xanthoma; Changes in the Skin caused by Arsenic; Pemphigus and its Variants; Fractures and Dislocations; Miscellaneous. Plates A to O, and XCVIII. to CXVII. Price to non-members, one guinea.

PATON, J. AND J., 143, Cannon-street, E.C.

Paton's List of Schools and Tutors. Sixth Annual Edition, 1903–1904. Price 1*s.* 6*d.*

REBMAN, LIMITED, 129, Shaftesbury-avenue, W.C.

Progressive Medicine. Edited by Hobart Amory Hare, M.D., assisted by H. R. M. Landis, M.D. Volume II. June, 1903. Price 15*s.* The set of Four Volumes £2 12*s.* 6*d.*

RUDEVAL, F. R. DE, 4, Rue Antoine Dubois, Paris.

Précis d'Electricité Médicale. Par E. Castex, Agrégé des Facultés de Médecine, Professeur de Physique médicale à l'Université de Rennes. Price 8 francs.

Hydrologie. Par Henri Causse, Chargé du Cours d'Hydrologie à la Faculté de Médecine et de Pharmacie de Lyon. Price 5 francs. (Précis de Médecine, No. 3.)

SCIENTIFIC PRESS, LIMITED, 28 and 29, Southampton-street, W.C.

Practical Guide to Surgical Bandaging and Dressing. By William Johnson Smith, F.R.C.S., Principal Medical Officer, Seamen's Hospital, Greenwich. Price 2*s.*

THE "BREWING TRADE REVIEW," 13, Little Trinity-lane, E.C.

Practical Management of Pure Yeast. By Alfred Jörgensen, Director of the Laboratory of Physiology and Technology of Fermentations, Copenhagen. Translated by R. Grey of the Kilburn Brewery, London, N.W. Price 5*s.* net.

TINLING, C., AND CO., 53, Victoria-street, Liverpool.

St. Kilda and Its Birds. By J. Wigglesworth, M.D., F.R.C.I Member of the British Ornithologists' Union. Price not stated.

UNIVERSITY PRESS, Dublin.

Queen's College, Galway. Calendar for 1902–1903. To be obtained from the Registrar. Price 1*s.*; post free, 1*s.* 5*d.*

UNWIN, T. FISHER, Paternoster-square, E.C.

Alcoholism: A Study in Heredity. By G. Archdall Reid, M.B., C.M., F.R.S.E. Price not stated.

WRIGHT, JOHN, AND CO., Bristol.

The New but True Life of the Carpenter: including a New Sketch of Mahomet. By Amos. Price 4*s.* 6*d.* net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BUTTERS, G., M.B., C.M. Edin., has been re-appointed Medical Officer to the Kempston Urban District Council, Beds.

ELLISON, E. H., M.D. Durh., has been appointed Certifying Surgeon under the Factory Act for the Syston District of the County of Leicester.

EMERSON, H. B., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory Act for the Pershore District of the County of Worcester.

EMINSON, L., L.F.P.S.G., L.S.A., has been appointed Certifying Surgeon under the Factory Act for the Lavenham District of the County of Suffolk.

FOX, JOHN ALFRED, L.R.C.P. Lond., L.R.C.P., L.R.C.S. Edin., L.S.A. Lond., has been appointed Medical Officer for the No. 3 District by the Penzance Board of Guardians.

HILL, W. J., M.R.C.S., L.R.C.P. Lond., has been re-appointed Medical Officer of Clevedon, Somerset.

MACCORMAC, HENRY, M.B., Ch.B. Edin., has been appointed a House Physician at the City of London Hospital for Diseases of the Chest.

MACPHERSON, LAWRIE J., M.D. Glasg., has been elected Chairman of the Bench of Magistrates for the Weymouth Division of the County of Dorset.

MUNRO, HUGH LENNOX, M.B., Ch.B. Edin., has been appointed House Surgeon, Royal Infirmary, Lancaster.

OSBORNE, A., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory Act for the Ilfracombe District of the County of Devon.

PHILLIPS, LLEWELLYN, M.D., B.C. Cantab., M.R.C.P. Lond., F.R.C.S. Eng., has been appointed Professor of Clinical Medicine in the School of Medicine at Cairo, and Second Physician to Kasr-el-Ainy Hospital.

STAINTHORPE, W. W., J.P., M.D., C.M. Glasg., has been re-appointed Medical Officer of Saltburn.

THOMPSON, JOSEPH HENRY, M.B., B.Ch., B.A.O. R.U.I., has been appointed Junior Assistant House Surgeon to the Stockport Infirmary.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIRKENHEAD AND WIRRAL CHILDREN'S HOSPITAL, Woodchurch-road, Birkenhead.—House Surgeon. Salary £100 per annum, with board, residence, and laundry.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Resident Surgical Officer. Salary £100 per annum, with board and residence.

BRISTOL DISPENSARY.—Two Medical Officers.
BURY INFIRMARY.—Junior House Surgeon.—Salary £90, with board, residence, and attendance.
CAMBRIDGE LUNATIC ASYLUM, Fulbourn.—Second Assistant Medical Officer, unmarried. Salary £120 per annum, with board, lodging, and attendance.
CANCER HOSPITAL (FREE), Fulham-road, S.W.—House Surgeon for six months, renewable. Salary £70 per annum, with board and residence.
CLAYTON HOSPITAL AND WAKEFIELD GENERAL DISPENSARY.—Junior House Surgeon, unmarried. Salary £80 per annum, with board, lodgings, and washing.
CROYDON UNION INFIRMARY, Mayday-road, Croydon.—Resident Assistant Medical Superintendent and Dispenser. Salary £130 per annum, increasing to £160, with apartments, rations, and washing.
DEVON COUNTY ASYLUM, Exminster.—Third Assistant Medical Officer. Salary £125, rising to £155, with board, lodging, washing, and attendance.
DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—Assistant House Surgeon. Salary £25 per annum, with board and washing.
EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—House Surgeon for six months. Honorarium of £25, with board, residence, &c. Also Medical Officer for the Casualty Department for six months, renewable. Salary at rate of £100 per annum.
GLASGOW ROYAL HOSPITAL FOR SICK CHILDREN.—Resident House Surgeon. Salary at rate of £50 per annum, with board and laundry.
GLOUCESTER, BARNWOOD HOUSE HOSPITAL FOR THE INSANE.—Junior Assistant Medical Officer, unmarried. Salary £150 a year, rising to £170, with board and residence.
GLOUCESTER GENERAL INFIRMARY AND GLOUCESTERSHIRE EYE INSTITUTION.—Assistant House Surgeon for six months. Remuneration at rate of £30 per annum, with board, residence, and washing.
HARTLEPOOLS HOSPITAL.—House Surgeon. Salary £100 per annum, with board, washing, and lodging.
HOLLOWAY AND NORTH ISLINGTON DISPENSARY, Balls Pond-road—Honorary Medical Officer.
HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C.—Radiographer.
HULL CITY AND COUNTY LUNATIC ASYLUM.—Second Assistant Medical Officer, unmarried. Salary £150 per annum, with board, apartments, washing, and attendance.
ISLE OF MAN GENERAL HOSPITAL AND DISPENSARY, Douglas, Isle of Man.—Resident House Surgeon, unmarried. Salary £82 a year, with board and washing.
KENT AND CANTERBURY HOSPITAL.—House Physician, unmarried. Salary £90 a year, with board and lodging.
LEITH HOSPITAL.—House Physician, Assistant House Physician, House Surgeon, Assistant House Surgeon, and Surgeon to Out-patients, all for six months.
LIVERPOOL INFIRMARY FOR CHILDREN.—House Surgeon. Salary £100 per annum, with board and lodging.
MALDON UNION.—Medical Officer and Public Vaccinator. Salary £65 a year, with fees.
MANCHESTER CHILDREN'S HOSPITAL.—Junior Resident Medical Officer, unmarried. Salary at rate of £80 a year, with board and lodging.
PARISH OF BARRA.—Medical Officer and Public Vaccinator. Salary £119.
SOUTHPORT INFIRMARY.—Resident Junior House and Visiting Surgeon, unmarried. Salary at rate of £70 per annum, with residence, board, and washing.
STAFFORDSHIRE GENERAL INFIRMARY, Stafford.—House Surgeon. Salary £120 per annum, with board, lodging, and washing. Also Assistant House Surgeon. Salary £80 per annum, with board, lodging, and washing.
WEST LONDON HOSPITAL, Hammersmith-road, W.—House Physician. Also House Surgeon. Each for six months, with board and lodging.
WOOLWICH UNION, West Woolwich Medical District.—Medical Officer. Salary £50 per annum, with fees.

The Chief Inspector of Factories, Home Office, S.W., gives notice of a vacancy as Certifying Surgeon under the Factory Act at Dunbar, in the county of Haddington.

Births, Marriages, and Deaths.

BIRTHS.

ALLIOTT.—On August 7th, at Wethersfield Hall, Braintree, the wife of Richard Alliott, *B.A.* Oxon., M.R.C.S., L.R.C.P., of a son.
GAMGEE.—On August 12th, at 28, Rotton Park-road, Edgbaston, Birmingham, the wife of Leonard Gamgee, F.R.C.S., of a son.
MURRAY.—On August 16th, at Apsley, Stockport, the wife of Robert A. Murray, M.D. Edin., of a daughter.

DEATHS.

BALFOUR.—On August 9th, at Westfield, Colinton, Mid Lothian, George William Balfour, M.D., F.R.C.P. Edin., LL.D., one of His Majesty's Physicians-in-Ordinary for Scotland, in his 81st year.
ELLIOT.—On August 12th, at Whiteford-road, Plymouth, Samuel Nathaniel Elliot, M.R.C.S., aged 83 years.
GRIFFITH.—On August 15th, at Lismore, Weybridge, John Thomas Griffith, M.D., F.R.C.S., in his 81st year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

MEDICAL ETIQUETTE.

THE following letter under this title appeared in the columns of our contemporary the *Daily Mail* of August 18th:—

To the Editor of the "Daily Mail."

SIR,—I am a simple-minded citizen of the United States seeking for information.

On our side of the water we hear often of an awe-inspiring, high-toned article called "medical etiquette" which casts a halo upon all British practitioners, rendering them perfectly immaculate and incapable of indulging in those unprofessional crimes which are said to be frequently committed by our doctors in the States. My trouble, sir, is that same "too solid flesh," which Mr. Hamlet so vainly tried to melt, and last fall a friend loaned me a book written by a doctor inviting all sufferers from my complaint to come unto him and be cured right away. It was an interesting work, and if the published name and address had not proved the writer to be a British practitioner I should have said he understood the art of advertising better than any man in the States.

Being in Europe this year I determined to call upon that doctor and get cured. I did so, and found him a most affable and agreeable gentleman.

After the usual preliminaries he drew up a list of rules for my guidance, the following of which would without fail lead to a cure. Among other things, I was at once to procure and consume certain wines and mineral waters, which could only be obtained from a given firm! I was to eat daily a kind of cracker procured from another given firm, and I was also to rasp my body daily with an ingenious implement procured from yet another given address!

I returned to my hotel, sir, and did some thinking. Then I went out and asked questions, which resulted in my finding, to my great astonishment, that my agreeable doctor was himself the wine and mineral water merchant, the cracker merchant, and the body rasp merchant! Now, sir, I feel convinced that if I eat those crackers, consume those wines and mineral waters, and rasp my body as directed, I will go home a well man. But I want to know, is this "medical etiquette"? OBESUS.

As the statements in this letter are a decided reflection upon a medical man we intended to ask "Obesus" if he would furnish us with the name of the practitioner in question, for we felt certain that he could not be upon the Medical Register if the story was true. But the *Daily Mail* of August 20th contained a letter signed "Registered Medical Practitioner" saying "the writer evidently has a tilt at me. The letter contains a modicum of truth." The writer then goes on to explain with great frankness that "the firms I recommend have taken much trouble for me, and it would not b fair if I did not return it, even if I help myself at the same time, as others do and must." We think that this view of the situation is not one that will be endorsed by the medical profession. "Registered Medical Practitioner" will find it difficult to prove that the patients can only get pure or good articles at the shops which he recommends—this being the reason that he alleges for his preferences—while he does not seem to perceive that suspicious people are certain to hold that his recommendations are not due to the excellence of the wares sold or manufactured by the firms in question, but to the fact that his relations with these firms are particularly friendly.

THE PATENTING OF SURGICAL INSTRUMENTS.

To the Editors of THE LANCET.

SIRS,—Like your correspondent "Patentee," I entirely fail to appreciate the distinction you attempt to draw between the patenting of a surgical appliance and copyrighting a book on surgery, the royalties on which you admit to be analogous to those which a patentee may possibly receive from an instrument. Both are, so far as they go, clearly a monopoly; else why does the author (or the publisher for him) seek to protect his copyright? If the appliance should be "a valuable adjunct to treatment" there could be no possible "hampering" of anyone in procuring or using it, as a patentee can now be compelled to give licences for selling and using his invention on reasonable terms. Lord Kelvin, to quote one eminent patentee only, designed and patented a water-tap, besides various other ingenious inventions. Why is he more entitled to benefit by so doing than I am if I design and bring out at considerable cost to myself, as every inventor has to incur for even the simplest device, a new tooth extractor? As to the patenting of a combination of drugs, it is, of course, done every day by the German pharmaceutical chemists who flood the British market with their products. Surely, when you talk of the medical profession not tolerating the "secret or proprietary

remedy" turned into a source of revenue you forget that many medical prescribers decline, and very wisely too, to hand over their prescriptions to their patients and thus essentially treat them with "secret remedies." The prejudice against medical patents is only a survival of the ancient ignorance which confounded them with so-called "patent medicines," the difference between which and "patents," properly so-called, is that whilst the "patent" medicine is a nostrum which is not patent but concealed, a "patent" must be so clearly described in its specification that anyone can make it when the period for which it is protected has lapsed. In this respect also it differs from a "proprietary" medicine, which may be run for ever if the public will buy it and the maker will continue to pay the stamp duty.

But I go further and maintain that it is in the direct interest of the public that every invention, no matter what, if it is worth anything, should be patented. It may involve monopoly to a limited extent, but it at the same time gives the only guarantee that can be obtained against debasement and sophistication. For it is to the interest of the patentee to maintain the efficiency of his invention. Reckless competition in trade is the parent of fraud of all kinds. But a patentee cannot sophisticate his goods; he must keep to his specification or he at once lays himself open to infringement. Moreover, it is to the interest of the patentee not only to maintain but to improve his invention. For these reasons, as well as for others which it is unnecessary to detail, I confess myself a hardened and impenitent sinner and join with my *confrère* in this alleged ill-doing by replying much as Talleyrand is said to have done to the advocate of the abolition of capital punishment: "Que messieurs les faiseurs de livres commencent." If I did not think you might suspect me of seeking to obtain a gratuitous advertisement in your columns I would sign this with my proper name, but it may be as well to say that I am

August 17th, 1903. ANOTHER PATENTEE.

To the Editors of THE LANCET.

SIRS,—Touching the question whether a medical man should derive profit from his inventions through the patenting of them, may I be allowed to observe that so long as patents for the new inventions of medical men are held by instrument makers and medicine vendors surely the medical men have themselves a right to share in the profits. Why should medical men bring out new inventions for the commercial man to derive profits from by creating a monopoly? Who deserves profit from the sale of new inventions if not the man who invents? Medical men should no longer play the listless aphis in the matter while the ant grows fat.

I am, Sirs, yours faithfully,

August 15th, 1903. INVENTOR.

PICRIC ACID IN THE TREATMENT OF BURNS.

To the Editors of THE LANCET.

SIRS,—Perhaps you or some of your numerous readers would be good enough to give me some information as to the use and action of picric acid in cases of burns? Some few weeks ago one of my servants was lighting a gas cooking-stove when suddenly there was an explosion and he was thrown to the other side of the kitchen. His hair, eyebrows, and eyelids were very much burned and his face and neck badly scorched. I was out on my rounds at the time and so he rushed off to a druggist near here, who immediately painted on his face a saturated solution of picric acid which, to use his own words, "took the pain right away." What I should like to know is, Is this a safe treatment in extensive burns and if the skin is broken? I may add that owing to the extraordinary colour of his face and hands his services were quite lost to me for nearly a week and he was an object of great curiosity when he did venture out.

I am, Sirs, yours faithfully,

J. JOHNSTONE REDMOND.

King's-road, Chelsea, S.W., August 17th, 1903.

THE QUEEN'S HALL ORCHESTRA.

THE forthcoming season of orchestral concerts opens at Queen's Hall on August 22nd. There is no greater rest for a hard-worked professional man than to listen to good music played by a good band directed by a good conductor. That these three desiderata are to be found at Queen's Hall is known to everyone. During the season the first part of the concerts will on three days a week be devoted to special composers—namely, Monday to Wagner, Wednesday to Tschaikowsky chiefly, and Friday to Beethoven and Mozart. On other days the music will be miscellaneous or "popular." We hope that Mr. Newman will see his way to performing some, if not all, of the first two sets of Handel's organ and orchestra concertos and the Bach concertos for two, three, and four pianos and orchestra. At the performance of the last-named some few years ago on a very hot night we remember seeing the area packed with a standing audience who encored the brilliant fugue with fervour—surely a sign that Bach can be "popular" to an extent but little dreamed of 20 years ago. Nor should Corelli be passed over.

CHLORATE OF POTASH POISONING.

FATAL cases of chlorate of potash poisoning are comparatively rare considering how easily available the salt is. The following case is of interest as the result of inadvertent administration of tablets of chlorate of potash to break a child's liking for sweets. At the inquest which was held at Morecambe the uncle of the child stated that the little boy was very fond of sweets and to cure him of the taste he purchased some chlorate of potash tablets and gave six to the child, and two hours afterwards six more. Altogether about 60 grains of the chlorate were given. In the evening the child became ill and ultimately died. The uncle thought chlorate of potash tablets quite harmless, as he had frequently taken a dozen or 20 in a day. In the medical evidence it was stated that chlorate of potash acted as a gastric intestinal irritant and an overdose was calculated to produce death in two hours at the most. The jury returned a verdict of "Accidental death from poison unconsciously administered." It is a pity, we think, that the person, presumably a pharmacist, who sold the tablets did not inquire of the uncle as to what purpose he required them for and thus have prevented a very stupid expedient.

COLONIAL APPOINTMENTS ON THE WEST COAST AFRICA.

To the Editors of THE LANCET.

SIRS,—I see advertised in your columns colonial appointments in the West Coast of Africa. Would any of your readers kindly let me know something of the conditions as regards climate, whether it is as unfavourable as said to be? Is the rate of living expensive?

I am, Sirs, yours faithfully,

August 18th, 1903. C. L.

ERRATA.—In Dr. L. E. Stevenson's letter in THE LANCET of August 15th, p. 493, col. ii, in line 6 the word "giovani" should be *giovanni*, and in line 15 "cure" should be *cause*.

B. T. R.—Presumably the patient is seen before the certificates are signed. There seems to be no reason why the fee for the visit should not be charged, the amount of this depending on the usual circumstances. If the patient wishes to make an inclusive contract there is no harm in our correspondent meeting his view.

Gentian.—We do not know whether any list is published. If our correspondent is alluding to "Queen Alexandra's Imperial Military Nursing Service," which is practically the army nursing service, he should apply for information to the Matron-in-Chief (Q.A.I.M.N.S.), War Office, Horse Guards, Whitehall, S.W.

House Surgeon is under no obligation to give any information at all, unless by the rules or custom of the hospital it is usual to do so. If he does give any information in writing we do not think that he is entitled to any privilege and he will be liable like any one else for what he may write.

Helix.—We never prescribe nor do we give medical advice. If our correspondent will consult his usual medical attendant he will be able to obtain the advice which he requires.

Inquirer.—Our correspondent should consult his usual medical attendant.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, August 20th, 1903.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 9.30 a.m.
Aug. 14	29·50	S.W.	0·01	89	69	58	60	62	Raining
,, 15	29·24	S.W.	0·24	110	66	57	57	62	Cloudy
,, 16	29·71	W.	0·03	120	69	57	59	63	Cloudy
,, 17	29·57	W.	0·36	121	72	54	59	61	Cloudy
,, 18	29·46	S.W.	0·05	109	65	57	59	61	Cloudy
,, 19	29·65	N.W.	0·21	111	68	55	56	57	Cloudy
,, 20	29·78	WSW	0·07	82	63	56	59	61	Cloudy

During the week marked copies of the following newspapers have been received: *The Scotsman, Le Brésil, Highland News, Folkestone Herald, St. Petersburger Medicinische Wochenschrift, The Fiji Times, La Tribune Médicale, Yorkshire Post, Isle of Man Times and General Advertiser, Evening News, Westminster Gazette, Evening Telegraph (Dundee), Sussex Daily News, Dublin Times, Birmingham Post, Surrey Advertiser, Notts Guardian, Dublin Express, Bradford Observer, Hereford Mercury, Sanitary Record, Local Government Chronicle, Mining Journal, Hertfordshire Mercury, &c.*

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (24th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.) Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (25th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.). Throat Golden-square (9.30 A.M.), Soho-square (2 P.M.).

WEDNESDAY (26th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.) Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M).

THURSDAY (27th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat, (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (28th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.).

SATURDAY (29th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (24th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—3.30 P.M. Dr. Saunders: Medical Cases. (Medical wards.)

TUESDAY (25th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Chisholm Williams: Electro-Therapeutics.

WEDNESDAY (26th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—4 P.M. Mr. Armour: Surgical Cases.

THURSDAY (27th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Dunn: Tobacco Amblyopia.

FRIDAY (28th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Lloyd: The Selection of Anæsthetics, General and Local.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. I. of 1903, which was completed with the issue of June 27th, and the Title-page to the Volume, were given in THE LANCET of July 4th.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1903 are now ready. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

Cases for binding the half-year's numbers are now ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

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The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

Communications, Letters, &c., have been received from—

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B.—Mr. Harold Burrows, Lond.; Messrs. Burroughs, Wellcome, and Co., Lond.; Mr. W. B. Brown, Bournemouth; Mr. J. Boot, Nottingham; Barnwood House, Gloucester, Medical Superintendent of; Bury Infirmary, Secretary of; Mr. C. L. Bedford, Lond.; Messrs. C. Barker and Sons, Lond.

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